



T R A V E L S
I N T O
D A L M A T I A;
B Y
ABBE ALBERTO FORTIS.





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I N T O

D A L M A T I A



ABBE ALBERTO FORTIS



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T R A V E L S
I N T O
D A L M A T I A;

C O N T A I N I N G
GENERAL OBSERVATIONS ON THE NATURAL HISTORY OF THAT COUNTRY
AND THE NEIGHBOURING ISLANDS; THE NATURAL PRODUCTIONS,
ARTS, MANNERS AND CUSTOMS OF THE INHABITANTS:

I N A
S E R I E S O F L E T T E R S
F R O M
ABBE A L B E R T O F O R T I S,
T O T H E
EARL OF BUTE, THE BISHOP OF LONDONDERRY,
JOHN STRANGE, Esq. &c. &c.

TO WHICH ARE ADDED BY THE SAME AUTHOR,
OBSERVATIONS ON THE ISLAND
O F
C H E R S O A N D O S E R O.
TRANSLATED FROM THE ITALIAN UNDER THE AUTHOR'S INSPECTION.
WITH AN APPENDIX, AND OTHER CONSIDERABLE
ADDITIONS, NEVER BEFORE PRINTED.
ILLUSTRATED WITH TWENTY COPPER PLATES.

—MODO EXUSTIONE, MODO ELUVIONE TERRARUM
DIUTURNITATI RERUM INTERCEDIT OCCASUS.—

MACROB. IN SOMN. SCIP. L. 2. C. 10.

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M D C C L X X V I I I .

D A L M A T I A
I N T O
T R A V E L S

CONTAINING
GENERAL OBSERVATIONS ON THE NATURAL HISTORY OF THAT COUNTRY
AND THE NEIGHBOURING ISLANDS, THE NATURAL PRODUCTIONS,
ARTS, MANNERS AND CUSTOMS OF THE INHABITANTS.

IN A
SERIES OF LETTERS
FROM
ARNE ALBERTO FORSTI.

TO
BARRON OF BULL, THE BISHOP OF LONDON
JOHN STRANGE, ESQ. &c.

TO WHICH ARE ADDED
OBSERVATIONS ON THE ISLAND



CHIEF OF THE
TRANSLATED FROM THE ITALIAN, UNDER THE AUSPICES OF THE
WITH AN APPENDIX, AND OTHER CONSIDERABLE
ADDITIONS, BY ARNE ALBERTO FORSTI.
ILLUSTRATED WITH TWENTY COPIES OF

THE
PUBLISHED BY

L O N D O N
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MDCCLXXXIII.

TO THE
RIGHT HONOURABLE
THE EARL OF BUTE,
KNIGHT OF THE GARTER.

MY LORD,

THE earnest desire I have of making known to the World, how much I esteem and honour Your Lordship, and by how many Ties of particular Gratitude I am become Yours, encourages me to give this public Testimony of it, in the only Way that Fortune usually offers to Men of Letters. Though such a Tribute bears no Proportion to Your Lordship's Greatness, yet I present it chearfully, being perswaded that it will be graciously received; and the more so, as Your Lordship in reality has had the greatest Share in the Work itself. For it began under Your Auspices, from that beneficent Genius that inspires You to promote, by the most generous Means, the Improvement of the Arts and Sciences in general, and particularly Natural History, Your favourite Study. It was Your Lordship's

learned Curiosity and Munificence, so well known throughout the Polite Parts of Europe, that first encouraged me to cross the Adriatick, principally to enquire into the Truth of the prevailing Report concerning the extensive Strata of Fossil Bones in the Islands of Liburnia, and along the Coasts of Dalmatia. It was also by Your Lordship's desire, that I reduced into some Form the particular Observations I had occasionally made there. How far the Execution has corresponded with the Pains, I have endeavoured to take, Your Lordship must judge; but be that as it may, I am persuaded that You will judge with Indulgence, and accept with Pleasure, the cordial and respectful Offering of a grateful Mind.

I HAVE THE HONOUR TO BE,

WITH THE MOST DEVOTED ATTACHMENT,

MY LORD,

YOUR LORDSHIP'S,

MOST OBLIGED AND,

OBEDIENT HUMBLE SERVANT,

ALBERTO FORTIS.

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PART I







To THE
RIGHT HONOURABLE THE
EARL OF BUTE.

Of the Country of ZARA in DALMATIA.

YOUR Lordship did me the honour, a few years ago, graciously to accept of the tribute of my observations on the Islands of Cherso, and Offero, on the borders of Dalmatia, which were not only first encouraged by your Lordship, but executed wholly under your generous patronage; I therefore flatter myself, that you will also condescend, with equal benignity, to accept of a small tributary share of my more general observations on the natural history of Dalmatia, which I have since undertaken there, under the patronage of noble Mecenati. Should these observations meet with your Lordship's approbation, my ambition will be fully gratified; as I know you are not less a proficient, in all the learned and useful sciences, than you are a protector of them.

The extent of the Venetian territory in Dalmatia is too great, and the number of islands in the neighbouring sea too considerable,

B

ble,

ble, for naturalists to expect any thing complete, from such short peregrinations. Men however are not wanting, who, transported by the ardour of youth, and the persuasion of being able to impose on the literary world, undertake to describe in a few months, the botanical, animal, and fossil history of the largest provinces: but he who is used to consider, with philosophic leisure, the immense variety of things, is soon convinced, that the life of a man is not sufficient (whatever assistance he may have met with) to compose a complete natural history of the smallest island, or district. A simple mineral water, or subterraneous cavern, or the course of a river, with its confluent streams, requires much attention and consideration, before one can pretend to treat of either of them expressly. And how can it be otherwise, if the fishes in the smallest creek of the sea, nay one of them alone, a plant, or an insect, if one is desirous to know perfectly its properties and transformations, is enough to employ an attentive naturalist, for months, and sometimes years, before he can acquire a competent knowledge of it? And who would not become cautious and diffident, on reflecting, that all that Swammerdam, Reaumur, Maraldi, and so many other celebrated men, have observed concerning bees, proves to be inaccurate, since the late observations of M. Schirach? Your Lordship, who is well acquainted with the difficulties, and vast extent of the field, in which the naturalist labours, will, I am convinced, receive these observations, that I have been able to make, with the candour that is natural to great, and enlightened minds; for those who are ignorant, or know little of this science, are commonly the most severe, and illiberal in their accusations. Donati, after having spent several years in travelling in Dalmatia, had not the courage to publish any more than an essay, on the natural history of the Adriatick. And the great Haller, after long researches among the Alps of Switzerland, gave

gave an eminent example of his modesty, by publishing, *an attempt towards a catalogue of the Helvetic plants*. What then can be expected from me, whose experience and wisdom are trifling, in comparison with those great and distinguished characters.

Of the Islands ULBO, and SELVE.

Having passed that part of the gulph, which, by our mariners, and geographers, is known by the name of *Quarnaro*, I first landed on two islands, called Ulbo, and Selve, that are contiguous to each other, and between which, the small vessels bound from Venice to Zara, commonly pass. These are probably the same that Constantine Porphyrogenitus* numbered among the uninhabited isles, under the names, mutilated according to his custom, of Alaep, and Selbo. The convenience of their situation has drawn inhabitants to them in our days, and they are even cultivated beyond what their poor, and ungrateful soil deserves; for the ground is so dry, and stony, that olives seldom come to any perfection; vines produce bad grapes; and corn succeeds still worse. The stone that most abounds, is a kind of hard, whitish marble, which, as your Lordship knows, is also found in a great quantity, among the highest mountains in Italy, particularly about Peperno, Terracina, and the royal Villa of Caserta. I know not, if this kind of marble is found on the higher mountains of Triuli, having hitherto had no opportunity of visiting that country; where also (as I have been told) there are but very few declared lovers of fossil knowledge. The greatest part of the Peninsula of Istria is however composed of it; and the same species abounds in the intermediate islands, appearing to be of contemporary

* *Cost. Porph. de Themat. Ipm. Them. Dalm. c. 29.*

rary origin, with that of the neighbouring littoral, and mediterranean mountains, in which are seen vast strata of this marble, though often interrupted, and out of their natural position.

At Venice, this marble is particularly used in building; I think it agrees with the *calcareus solidus, particulis impalpabilibus Wallerii*. † The appearance of it is filiceous, particularly on being broken, when it flies, into concavo-convex splinters, like the common flint stone. Artificial acids are long in making any impression on it, and nothing but the air, assisted by the acid particles which it commonly carries along with it, is capable, in a long course of years, to render its surface rough, and so make visible the small triturated parts, of which it is composed. I collected some curious specimens of the *ostracites* on the low island of Ulbo, where the shells of the oysters are in general found disposed horizontally, one above another, and are neither calcined, nor petrified, notwithstanding the ages they have lain there. They still retain their natural brightness, and break in laminated scales, much in the same manner as those taken fresh out of the sea. But these shells are not the spoils of any inhabitants of our seas, which produce no species of oyster whose shell is so long, or so deeply channelled: they seem to have been left there by that remote ocean, whose testaceous bodies formed the vast strata of calcareous stone, which now compose the mass of the Dalmatian isles; small and miserable remains of ancient lands,

† *Calcareus solidus, particulis impalpabilibus, et indistinctis. Wall. §. 41. 1.*

Lapis calcareus particulis impalpabilibus. Cronstedt. 7.

Calculus litoralis. Dioscorid. Cæsalp. Encel.

Pierre a chaux compacte. Bomare. 105.

lands, torn asunder by rivers, corroded by subterraneous torrents, shattered by earthquakes, subverted by volcanos, and then overwhelmed by a new sea. I have given to this aggregate the name of a calcareous stone, slatey, spatous alternately composed of broken marine substances, and of the before mentioned flat exotic fossil oyster. It is no uncommon thing, to meet with thick incrustations, and sometimes in large pieces, between the strata of the stone, and in the small cavities which are often found in it. These resemble identically the soft stalactetic marble, coloured, with variegated streaks; known by our sculptors by the name of alabaster of Corfu.

I was not able to make any observations on the island of Selve; the storm of wind, and rain, that forced me to take shelter on it, prevented even a short excursion. But it is probable, that the stones of this island do not differ from those of Ulbo. The air of both islands is healthy; but the water of neither is good; they are moreover, on all sides, exposed to the winds; having no eminences to defend them. Selve, supplies many seamen, and is sufficiently well provided with cattle.

Of the Island of ZAPUNTELLO.

Soon after I had sailed from Selve, we were driven by the violence of the wind into a creek of the island or Zapuntello, which is but thinly inhabited, in proportion to its extent; having only three villages, from one of which it takes its name. This island is also called Melada, from another village; and there is no doubt but it is the *Meleta* mentioned by Porphyrogenitus* among the
deserts

* Cost. Porph. l. cit.

deserts of the sea of Zara. Though I did not stay long there, yet I had an opportunity of observing some fossil curiosities. I collected large pieces of a hard kind of stone, full of an unknown species of fossil, belonging to the class of the *Ortocerati*, concerning which, I shall have occasion to speak more at large hereafter. But the most curious fossil production of Zapuntello, is, a calcareous stone, very white, and almost as hard as marble, although, when broken, it appears farinaceous. Impressions of stones, wood, and of marine insects, are seen in it. It should seem, that during the concretion of this stone, from a kind of muddy substance, various kinds of Madreporae, and other Corallines, remained buried in it; though the acid, which dissolved them, left their places empty, and tinged only with a kind of rusty ochre; yet vestiges enough remain, to ascertain the bodies that pre-existed in the respective hollows. The sea sand in the creek, is full of microscopic shells, of the *nautili*, and *cornua ammonis* kind, the figures of which, may be seen in the work intitled *De conchis minus notis*, of the celebrated Janus Plancus, † who had the merit of first discovering them, in the sands on our coast. It would have given me pleasure to have added an appendix to the acute observations of Plancus, by examining these little animals just taken out of the sea, in the aquatick microscope, as something more probably might have been discovered about the particular structure of this kind of *concha politthalmia*, called *cornu ammonis*; for it is no longer to be doubted, that the only difference, between the maritime ones observed by the naturalists of Rimini, and those fossils of the neighbouring mountains, consists almost intirely in the variety of the size and proportion.

Of

† Jani Planci ariminensis, &c. de conchis minus notis. Plate I.





A. Country Woman of the Canal of Zara. Jac. Leonardis sculp.

Of the Island of UGLIAN.

The first place, where I found myself at leisure to make observations, was in the island Uglan, in the channel of Zara. I staid there eight days; sometimes examining the stony hills, and wandering but to little purpose, along the sea coast, in search of something new; and sometimes employing myself in learning a few words of the language, which now became necessary to me. The civility of those poor islanders, rendered that solitude, pleasing and agreeable to me, to which I had been led by a certain melancholy, now become habitual. I wished to remain a long time there, but the disagreeable circumstance of being ill accommodated, obliged me to abandon that thought. The island is fertile enough, and capable of producing any thing, when the inhabitants make a proper choice of the soil and situation, agreeable to the respective seeds and plants. But it is a common misfortune to almost all the islands of the Illyrian Archipelago, to want good water, which the poor inhabitants often feel the bad effects of, in the hot season, their crops being frequently destroyed, and themselves obliged to bring their water from distant places, or to use what they have, in a kind of pits, ill suited for the purpose of preserving it sweet.

The dress of the islanders, under the jurisdiction of Zara, is very unlike that of our peasants, resembling rather that which is used by the common people, on the neighbouring continent. The women, however, and particularly the young ones, have a kind of dress, with ornaments very prettily embroidered. I thought they merited a drawing. (Plate 1.)

Near the maritime little village of Cale, on this island of Uglan, Count Therry resolved to combat with nature, and to vanquish her; for, in spite of the rocky nature of the hill, he has actually

actually made a kitchen garden upon it after the Italian method. The insects indeed are perpetually at war with him; and notwithstanding all his attention, frequently destroy the fruits of his labour. Snails also unite themselves to these winged enemies, and I never saw such prodigious numbers any where else. Fulvius Hirpinus, who first made nurseries for snails, in the Campania Targuiniensis, would have found enough to satisfy him. I know not, if on this island, they grow to the very large size that Pliny says* the Illyrian snails did, but it is probable, that, if they were suffered to propagate, and live quietly, their bulk would correspond with their fecundity.

On the quality of the stone that forms the Island of UGLIAN.

Various species of stone compose the mass of Uglia, and the neighbouring islands; they may, however, be reduced principally to the four following. The lowest stratum is a kind of marble, which contains an infinite number of extraneous bodies, of the *ceratites* kind, and crystallized in a white calcareous spar. These bodies are not all of the same size, nor form, though they are constantly fistulous, and crooked. I have some specimens, that correspond to the description of the *Helmintholitus Nautili Orthocerae* of Linnæus. † This celebrated naturalist believes, that the marine original of this petrification, is *without doubt* an inhabitant of the bottom of the Baltic (from whence however it never was taken out alive, nor in its testaceous state) being induced to think so, from having found it frequently in the marble
called

* Plin. Lib. IX Cap. 56.

† Linn. Syst. Nat. T. III. p. 162. ed. 1768. Habitat *sine dubio* in abyssu maris Balthici deperditus, petrificatus nobis frequentissimus in marmore stratario &c.

called by him *stratario*, because it is used in paving the roads in many provinces adjacent to that sea. It should seem, that this learned man had forgot the many species of exotic plants, marine bodies, and bones of terrestrial animals, which are frequently found petrified in the bowels of the mountains of Europe, though never seen in their natural state in our seas. I can venture to affirm, that the *Orthoceratites* live not in the Adriatick, though they are found petrified in marble, on the islands, and on the continent of Dalmatia. The coral fishers have scoured the bottom sufficiently, to convince us, that no species of living creatures, much propagated, inhabite there at present, but whose individuals are well known to us. I have had drawings made of several pieces of this marble, in which the *Orthoceratites* appear prominent, and I will describe them more minutely, when I speak of the little island, on which I collected the most interesting specimens. Your Lordship will allow, that an assertion *procul dubio*, not supported by any fact, but, on the contrary, positively contradicted, may permit me, to take some liberty with this celebrated author, whose talents, and merit, however, are, by all lovers of natural history, deservedly held in the highest veneration.

The second species of Uglian marble, is analogous to the fossil oyster stone of Ulbo, and contains great quantities of *Ostracites* well preserved, and very distinguishable, but not easily separated from the substance of the stone in which they lie; they are particularly visible on the surface of such pieces of marble, as have been long exposed to the action of the air, and rain. Not only the first species, composed of *Orthoceratite*, but also the other, containing the fossil oysters, is of a white colour; but they are both rough, or of a coarse grain, and untractable to the

C

chisel,

chisel, unless for ordinary works. The third sort is much better calculated for workmanship, being very compact and solid, and though it equally contains marine bodies, yet they are so intimately incorporated with the stony substance, that they cannot by any means be separated from it, making as it were one uniform mass.

The tops of the hills of Uglian, are of a compact coliareous stone, of impalpable parts; a sort of marble, Istrian, Dalmatian, or Apennine, which ever you please to call it; for the same substance described above, as prevailing in Ulbo, extends itself over all the heights of these provinces, as well as of Italy, interchangeably with the *breccia*. Donati, describing it with less exactness than Linnæus, calls it, *opaque marble, of an uniform grain, and whitish colour*; and believed it was the *marmor Traguriense* of the ancients; though I know not upon what foundation.

I have seen on this island, for the first time, a curious species of kermes (if so it may be called, or if it is not rather a new genus) growing upon a fig-tree; and not remembering to have met with a description or figure of it by any author, among the classical books on insects, I got a drawing of it. This insect differs very much from the *faux-puceron* described by Reaumur, and which I have never been able to see on the fig-trees of Dalmatia. Plate I. fig. A, is the little fig branch to which the galls adhere, if so I may name these very singular Chrysalis. Nor is this one of the fullest, for some trees have their lesser branches so entirely covered, that they look like the confluent small-pox, full of pustules, one upon another. The figure B shews the gall grown somewhat larger; and it is certainly one of the

the most curious productions, that is to be met with in this branch of natural history. Its cupola is striated, but so minutely, that it loses nothing of its smoothness, when observed only by the naked eye. The top of the cupola is constantly adorned with a *papilla*, not unlike those in which the spines of the Echinus are fixed. The lower part, about the base, is surrounded by eight other *papillæ*, very like that above, and which correspond to as many cramps, or holders, by which the under-parts of the little animal are fastened to the bark. The size of these galls is unequal; some remain small, and stunted; probably because the animals, from which they proceed, fastened themselves too near others, who had already sucked out the milk from the bark, from whence their nourishment and growth seem to be derived. There is no doubt, but that the milky humour of the fig-tree, elaborated through the vessels of these little animals, occasions the daily growth of the galls; which is the more evident, because, if, by any external accident, any part is torn away, it is soon reproduced, as is observed of the shells of snails, &c. This particularity alone appears sufficient to constitute a new genus.* The substance of this animal's shell, or cover, is a kind of wax, or lac, greatly ana-

* Several writers of reputation, among whom are Garzia ab Horto, Bontius, Montanus, Amatus, Lusitanus, and Tavernier, have asserted, that the lac of China, Japan, and Pegu, is extracted by winged ants, from a tree, which they call *Tanofki*, or *Namra*. And this may be partly, if not altogether true, as a smaller and weaker insect can extract a gum from the fig-tree. Cleyer, who was at Nangasaki, in 1685, wrote to Mentzel, that this was but a fable, and that the lac was extracted by incision only; yet perhaps he had not been able to inform himself sufficiently. V. *Garziz ab Horto* hist. arom. l. 1. c. 8. *Jacobi Bontii Medic. Ind. Arnoldi Montani* Hist. Legat. Batav. Soc. Ind. Orient. ad Imp. Japan. *Amati Lusitani* in Dioscorid. l. 1. *Tavernier*. P. 2. l. 2.

analogous to the dried milk of the tree, on which it has its birth and increase. The parts of the animal could not be distinguished, when I observed it the first time on the island of Uglia, and collected a good quantity. Afterwards, on examining the galls, I found, in each of them, a slimy substance, of a bloody colour, which tinged the fingers with a very beautiful red. I carried a parcel to Zara, in the month of June, and from a small part of it only, I extracted, by simple decoction, a tenacious matter, of a pale red colour: the water, in which the galls were boiled, remained tinged with a yellowish red.

Having kept by me several of these galls, carefully collected, in order to protect the animals concealed within them, I accidentally let them remain in a box, for several days, without looking at them; and on opening it, I was surprized to observe innumerable red granules, which, when examined by the microscope, appeared plainly to be eggs, of an oblong form, much resembling the oval bags of silk-worms. No vestiges of any worm, or fly appeared in the box, and had there been any, they could not possibly have escaped, as it was nicely screwed together. I laid it by again, and opening it five or six days after, I saw an innumerable swarm of little red animals, which, at first, appeared to have white wings; but, on examining them with the microscope, I plainly discovered them to be *apteri*, with six feet, and not yet entirely free from the covering of the egg, which they carried on their back, resembling wings raised up, and united. I shut them up in their prison again, and in a few days they died of hunger. The fig-trees about Zara, not being peopled with these insects, I was therefore obliged to renounce my desire of examining them further.

Some

Some time after, however, I found them again on the island of Brazza, and was not a little embarrassed about a worm, which was lodged in several of the galls, or chrysalis; but, on further consideration, I am inclined to believe this worm is rather an usurper, than a natural inhabitant of the gall itself; and I was the more confirmed in this opinion, on observing many of the red insects, wandering about upon the branches, and soon after becoming almost insensible and adherent to the bark. I propose to examine them again attentively, if I light upon them in a proper season; and am the more desirous of doing it, because these red eggs bear a near resemblance to the kermes used in dying. I am also not without hopes, that, by collecting, and laying them in a heap, before the maggots have life, or killing them immediately after, a paste may be had of some use. *Quinqueranus*, wrote a hundred and eighty years ago, some particulars relative to the kermes, which seem to agree very well with this new *grain* of the fig-tree. *

This malady attending the fig-trees, is neither very ancient, nor has it been constantly experienced in the islands, and on the sea coast of Dalmatia; for when the cold in winter, happens to be more intense than usual, the country is almost totally freed, for that year from these troublesome insects, which certainly

* *Has autem baccas quando vident in vermiculos abire velle illos aceto, vel aqua frigidissima ex puteo adspargunt, et in loco tepido supra fornacem, seu in sole lente exsiccant, donec moriantur. Aliquando animalcula ista a vesiculis relictis segregant, et extremitatibus digitorum leniter comprehendendo in pilam, seu massam rotundam efformant, quæ multo pretiosior est granis, et ideo majori pretio a mercatoribus emitur. Quinqueran. ap. Cestonium in Ep. MSS. ad Vallisnerium seniore. Here it ought to be remarked, that in those times, the words *vermis* and *vermiculus*, were frequently used to denote any insect whatever.*

tainly do great damage to the province, where figs form a considerable article of commerce. The trees covered with these insects, bear insipid, and disagreeable fruit; not only the leaves, and branches, but the figs themselves are cloathed with this new generation, which becomes immoveable, and is actually buried under its coat of lac.

The trees having suffered this pest, for two or three years successively, the bark grows black, and rotten, and falls off from the branches, which also rot, in their turn, appearing squalid, even in the end of spring; and at length, this rottenness diffusing itself from the extremities, to the principal branches, the trunk itself decays, and dies.

Of the City of ZARA.

Zara, called Jadera by the Latins, and Diadora in the later times, was once the capital of Liburnia, that is, of the great peninsula, which runs out into the sea, between the two rivers Tedanius, and Titius; now known by the names of Zermagna, and Kerka; and since the fall of the Roman Empire, it is become the capital of a more extensive province. Time, that has scarcely left any traces of the greatest part of the Liburnian cities, has nevertheless spared this, which actually enjoys all the splendor, that a provincial city can well expect; and seems rather to have gained, than lost, by the course of ages. The inhabitants of Zara, are as civilized as any of the cities of Italy; and in every age, it has produced men distinguished for learning. *Federico Grisogono*, who lived about the middle of the sixteenth century, published a discourse on the causes of the flux, and reflux of the sea, which he attributed to the pression of the sun, and moon. *Gian-Paolo Gallucci* of Salo, inserted the whole of this

this small treatise in his work, entitled, *Theatrum mundi et temporis*, transcribing it from the medical book in which the author had placed it. *Simon Gliubavaz*, a gentleman of Zara, left many valuable papers, tending to illustrate his country, and the ample territory which surrounds it. There is also a small manuscript treatise of that learned man, which explains all the ancient inscriptions discovered at Zara, to the middle of the seventeenth century. Amongst the present living ornaments of this capital, Count *Gregorio Stratico*, and Signor *Domenico Balio*, deserve to be particularly mentioned; the first, for politeness, and other amiable qualities; and the other, for his modesty and reserve, though he is courteous to strangers, and qualified, as well as disposed, to be useful to them. Few only, and miserable remains of the Roman fabricks, which once adorned it, are now to be seen; having been destroyed, chiefly to build the modern fortifications. Your Lordship will easily find in the classical collections, the many inscriptions, that were preserved here, till the beginning of the present age; and which shew, that this city, and colony, was particularly favoured by many of the Roman Emperors, and chiefly by Augustus, and the good Trajan. Hence the first merited the title of Father of the Jadertine Colony; of which sufficient testimony still remains, in one of the said inscriptions. The second caused an aqueduct to be built, or at least restored, which brought water to the city from a great distance, as also appears by the fragment of another inscription, still existing in the city.

Dr. *Antonio Danieli*, physician at Zara, received me with great hospitality into his elegant house, which is adorned with many pieces of ancient sculpture. Among others, there are four valuable colossal statues of saline marble, that were removed

moved from the ruins of the neighbouring city of Nona, and transported to Zara, at the expence of this zealous lover of antiquity. He also possesses several ancient inscriptions on stone, brought from various parts of Dalmatia, among which, is that valuable one mentioned by *Spon*, as being then in the house of Signori Tommasoni; it lay hid ever since the year 1675, under a covering of plaster, and being discovered by Dr. Danieli, was by him published, in consequence of the mention made of it by the French traveller. *

I further observed, among the said inscriptions, three Greek tables, which were brought from the island of Lissa, and seem to belong to some *Psephisma*, being fragments of subscriptions of senators. My good friend and host, has likewise a large collection of ancient Roman coins, besides many Greek ones, in excellent preservation.

I saw at Zara, an hermaphrodite foal, singularized by that monstrous marring of the sexual parts, well known to anatomists, and commonly called hermaphroditism. If this animal had been produced at Paris, the learned would probably have determined its place among the Stallions, as a male, according to the curious decision, which obliged the *Drouart* to wear the dress of a man because *the virile sex* predominated in her. † This
beast

* *Spon* voyages, vol. I. the inscription is at the end of the 3d vol.

† Michel Anne Drouart who was at Venice in 1769, and exposed to view for money, was particularly examined by the celebrated professor Caldani, of the university of Padoua, and understood to be a monstrous loathsome woman; although M. Morand, the King of France's surgeon, and a member of the academy of sciences, had declared her an hermaphrodite, in whom the virile sex predominated. And in consequence of this curious decision, the archiepiscopal chancery,

beast (also resembling the *Drouart* in the organs of generation) though of a good size, and well made, was sold at a very low price, by a Morlacco, in whose house it was foaled; to avert the bad omen, which that superstitious nation draws from the birth, or appearance of monsters.

The sea gains ground on the City of Zara continually; and if this was not sufficiently confirmed by the high tides, that overflow several places, which, when built, were certainly intended to be out of their reach; the old pavements of the streets, which actually lie below the ordinary level of the sea, are certainly sufficient proofs of it, as well as the many noble fabricks, discovered only a few years ago, in cleaning, and deepening that part of the harbour, which they call the *Mandraubis*. The various circumstances that occur along the coasts of the Adriatick, tending to prove the gradual elevation of the waters, leave us no room to doubt the truth of it. The sea constantly pervades on this coast, notwithstanding the partial increase of the land, by the quantities of mud and sand, deposited at the mouths of rivers: And whether the coasts of our gulph be marshy, sandy, mountainous, or stony, there are always found ruins of ancient fabrics now submersed by the sea: Proofs are also daily discovered, that its level actually rises. Whether this proceeds from the quantity of stones, and earth washed down into it from the mountains, or from whatever other cause, may be a matter of conjecture to the curious. Those who have made repeated observations on this subject, cannot therefore easily admit the opinion

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chancery ordered her, by a precise decree, to dress in man's cloaths. Any one may read M. Morand's memorial, among those of the academy, and be scandalized by it.

(once in vogue) of Browallius, and others, that the apparent rise of the waters, is to be deduced from the subsidence of the land. The Venetians are particularly enabled to judge of the reasonableness of this system, by comparing and examining the changes in and about their city.

Of the City and District of NONA.

The ruins of Nona, which ought to furnish abundant materials, to gratify the curiosity of antiquaries, are so buried, by repeated devastations, to which that unhappy city has been exposed, that rarely any vestige of them appears above ground. I went thither, in hopes of finding something worthy of notice, but was disappointed. Nothing is to be seen, that indicates the grandeur of the Roman times; neither are there any remains of barbarous magnificence, to put one in mind of the ages in which the kings of the Croat Slavi, had their residence there. It lies on a small island, surrounded by a harbour, which, in former times, was capable of receiving large ships; but is now become a fetid pool, by means of a little muddy river that falls into it, after a course of about six miles, thro' the rich abandoned fields of that district. The ancient inhabitants, turned this water into another channel, and made it run through the valley of Drafnich, into the sea; and the remains of the bank raised by them for that purpose, are still to be seen. Notwithstanding, however, the depopulation of this district, and the dreary situation of Nona in particular, the new inhabitants have not lost courage; and animated by the privileges granted to them by this most serene republick, are endeavouring to bring the population and agriculture once more into a flourishing state. Proper drains for the water, would not only render

der that rich territory habitable, but moreover very fertile; and the brackish marsh, that surrounds the walls of Nona, is well calculated to supply a considerable quantity of fish, especially eels. The government, generously granted the investiture to private persons, who already draw no inconsiderable advantage from the fishing; and did they but adopt better methods, they might every year, salt many thousands of eels, which would greatly answer our internal commerce, and save, at least, a part of the money, that goes out of the country for foreign salt fish. To the left of the city of Nona, the walls of some ancient ruinous buildings appear; which probably in ancient times, were situated on the main land, though now surrounded by water. The sea forms a narrow channel in this place, which is easily fordable, and, at low water, the smallest boat can scarcely pass. The neighbouring village, corruptly called by the Morlauh, its inhabitants, *Privlaca*, and by those of Zara, *Brevilacqua*, seems to have taken its name from the ford, which the Latins used to call *brevia aqua*. This divides the district of Nona, from the contiguous island of *Puntadura*. The coast of *Brevilacqua* is very high, and cut perpendicularly in such a manner, as discovers very distinctly the various strata of the substance, whereof they are composed. These Strata, are mostly sandy or gravelly, and seem manifestly the depositions of some ancient river, which is now no longer seen. Some of these Strata, and especially the lowest, by the filtration of the water, are hardened into stone, forming pieces of trunks as it were, of *Osteocolla*, perpendicularly ranged together. In some parts of this coast, just above the surface of the water, the marble appears, that forms the base of the fluviatile strata. The same kind of marble is also seen, further within land, and probably formed prominences, before the lower lands were filled up, and levelled by

by the turbid depositions of the waters. The *lapides lenticaulares*, and other similar fossils are also seen, intimately united with the mass of marble. In going from Zara to Nona on horseback, I observed a curious disposition of the soil, which the shrubs, wherewith that tract of country is naturally covered, for thirteen miles in length, seem in great measure, to have made. From Zara, to the village of Cossino, the fields are stony, yet capable of bearing vines, and corn; but they are laid out in a meadow ground, and are very ill kept. A mile beyond Cossino, there is a wood of the *Sabina fruticosa*, called in Illyrian *glubi smrich*, or deaf Juniper; no other shrub is to be seen. After a mile of the Sabina, begin the *Lentici*, which occupy but a short space: then the *Phylirea*, *Erica*, *Arbutus*, and smaller *Ilex*, live in common society together. To these succeed the Junipers; and lastly, near Nona, the *Paliurus*, called *Draca* by the inhabitants, reigns alone.* I could not perceive any remarkable difference, in the respective soils occupied by these various families of shrubs. The *Ilex cocci glandifera*, of the Botanists, is very frequent along the coast; and in the islands of Dalmatia; but, notwithstanding all the diligence I used, I could not find the Kermes. It would be a laudable experiment, to endeavour to settle here, the race of this precious insect, getting it from the Levant Islands, where it is found naturally. There is the greatest reason to hope, that, in a short time, it might become a produce of consequence to Dalmatia.

Of

From the Greek *δαρρα*, punga. Many other botanic words in the Illyrian language, have a near affinity to the Greek, such as *trava*, herb grass, *δαβρα*, *dervo*, wood, *δενς*.

Of the District of ZARA.

The large province, which in our maps is called the Territory of Zara, still retains its ancient name of *Kotar*, which the inhabitants of the country constantly give it. This tract of country is generally reckoned unhealthy in the summer: but I have visited a good part of it with impunity, and should have extended my observations further, if, through the heat, and fatigue, my draftsman had not contracted an obstinate agueish fever. This disappointment also prevented my bringing into Italy, a much greater number of drawings, and other curiosities. The line of my travels, through the territory of Zara, was by the towns of San. Filippo and Giacomo, Biograd (called also Zaravecchia) and Pacostiane, on the coast; Vrana, on the lake of the same name, Ceragne, Pristegh, Benwvaz, Perussich, Podgraie, Coslovaz, Stancovzi, Ostrovizza, Bribir, Morpolazza, Bagnevaz, and Radaffinovich within land.

TRAJAN'S AQUEDUCT.

I saw at San. Filippo and Giacomo, the vestiges of an Aqueduct, either built, or repaired, by the Emperor Trajan; and followed the tract of these vestiges, for a considerable way, on either side. Hence I can positively affirm, that the Dalmatian historians, particularly, Simon Gliubavaz, whose manuscript lies before me, and Giavanni Lucio, in his celebrated work, concerning the Kingdom of Dalmatia, and Croatia, were grossly mistaken, when they wrote, that Trajan brought water to Zara, from the river Fizio, or Kerka, taking it from the cascade of Scardona, called in the language of the country, *Skra-*
dincki slap;

dincki-slap ; * in the neighbourhood of which, some trifling ruins of aqueducts are still to be seen. But they are surely excusable, if, through eagerness to do honour to their native country, they have ascribed to Trajan, a merit thirty times greater than he really had, in either building, or repairing this aqueduct; as they were certainly unacquainted with the country that lies between *Skradincki-slap*, and the sea coast of Zara, for the Turks were in possession of it, when they wrote. The remains of the aqueduct are first seen, at a little distance from the walls of Zara, along the sea side, towards the village of San. Cassano; then through the wood of Tuftiza, [as far as the Torrette, where they serve as a foot-path to travellers; and lastly at San. Filippo and Giacomo; and further on, at Zaravecchia, where their traces are lost, but seem to have been directed to the neighbouring river of Kakma, which is distant from *Skradincki-slap*, thirty miles at least, in a right line. The mountains that rise between that place, and Zaravecchia, are much higher than the cascade of the river, and therefore it would have been impossible to convey water from thence. They are also divided by large valleys, so that there ought to appear frequent remains of arches, supposing the waters of the Tizio could have been brought by such a road: Now there is not a single vestige of an aqueduct to be seen, within the compass of thirty miles, that can justify this inconsiderate assertion of Lucio and Gliubavaz, and the vulgar opinion. The inscription which I mentioned before, neither says, nor gives ground to guess from whence the water conveyed by Trajan was brought.

BIOGRAD.

* *Scardonicus lapsus*.

BIOGRAD, or ALBA MARITIMA.

Biograd, now a poor village on the sea-side, known by us, and marked in the maps, by the name of Zaravecchia, given to it in the times of ignorance, was formerly a considerable city. The situation, distances, and some inscriptions that have been found, seem to indicate, that *Blandona* was situated near this spot, but by no means, the ancient *Jadera*, as Cellarius imagined. * It is, however, certain, that in the middle times, this was a place of consequence, by the frequent residence, and coronation of several kings of Croatia, and particularly of Cresimir, who founded a monastery there, in 1059. Biograd is called in the records of those times, *Alba maritima* and by Porphyrogenitus, *Belgrado*, according to the custom of the Slavi, who frequently called the cities, where their princes resided, by that name. † It had the title of bishoprick, which was transferred to Scardona, when the doge *Ordelafo Faliero* caused it to be demolished, in the heat of the war with the Hungarians. From these ruins, in the course of years, a village arose, which became peopled by a set of men, who making rapine and violence their business, merited the indignation of government, and it was levelled with the ground, in the last age. It is now inhabited

* *Postquam Jadera est, Ἰαδερὰ πόλις Ptolomeo, et Plinio Colonia Jadera, memorata etiam Mel. lib. 2. c. 3. Hodie vocatur locus Zara Vecchia, ultra Zaram Novam, visendus cum rudibus nostræ Jaderæ. Cellar. Notit. Orb. Antiqui. 1. 2. c. 8.*

† *Bielograd, or Belograd, or Biograd, signifies white city. Bonfinius Dec. 1. lib. vi. mentions Belgrado, among the maritime cities of Dalmatia, destroyed by Attila; though it should seem, that before the irruption of the Huns, the city ought not to be called by the name it bore in after ages. But if it actually bore that name, it would become a new proof of the antiquity of the Sclavonian language in Illyrium.*

inhabited by a few poor people; though it has a large, and secure harbour, on the banks of which I collected some sand, full of microscopic shells. The soil in that neighbourhood, along the shore, is stony, but not bad; the stones are of the marble kind. Without the harbour of Biograd, there is a knot of islands, which used to serve as a place of refuge to the inhabitants of the adjoining coast, during the incursions of the Turks.

Not far from Biograd, is Pacostiane, a poor place, situated on the isthmus, which divides the sea, from the lake of Vrana. Its few unhealthy inhabitants, feel the effects of this neighbourhood; for not being able to cultivate their own ungrateful littoral soil, they are induced to pass over the marsh in little boats, to avail themselves of the more fertile banks, on the opposite side of the lake, where the air is remarkably bad. The common food of these people, is the fish of the lake, and particularly eels, which they eat at all times, even in the season when they are very unwholesome. They use a singular method of catching them, in their season of propagation, when the eels crowd together in multitudes: two men, each holding the end of a thick cord, wade along in the most shallow parts of the lake, and striking them with the rope, kill a number, and disperse the rest; they then collect the dead, and eat them.

The Castle of VRANA.

Vrana, which gives name to the lake, and is built on the extremity of it, towards the North, was an important place in former times, and belonged to the Templars. It was the residence of a Grand Prior, whose power encreased to such a degree,
that

that it sometimes preponderated even in the affairs of the kingdom. Gianco of Polifna, one of those Grand Priors, in 1385, pushed his sacrilegious temerity so far, as to make his own Sovereign Elizabeth, widow of Lewis, King of Hungary, and her daughter Mary, his prisoners; neither did this satisfy him, for he caused the mother to be drowned in a river. In the beginning of the same century, Philip the Bel, though he could not make the Templars in France confess themselves guilty of any criminal offence, nevertheless exterminated them by fire and sword; while their successors in Hungary and Dalmatia, convicted of the before-mentioned execrable crime, suffered, in a manner, no punishment at all; the revenge, that Sigismund, husband of Queen Mary, chose to take, being merely confined to the person of the Grand Prior.

This castle, which at the time of its foundation, was named Brana, or Vrana, by way of dignity, is now a frightful heap of ruins, reduced to that state by the Venetians. Some writers have thought that Blandona was anciently seated there; but no vestige of Roman antiquity is to be seen about these walls, and ruined, uninhabited towers. I searched with great diligence, among the stones, for inscriptions, but in vain; and was happy at last to get from among them, without any accident,

The *Han*, that stands near these ancient walls, is well worthy of observation, although it is also now in a ruinous state, being abandoned to the barbarity of the Morlauhi, who inhabit the neighbouring lands, and carry off whatever materials suit them, to be employed in their wretched cottages. The foundation of Hans, or Caravanferas, do great honour to the Turkish nation, and they are very numerous throughout that Empire.

E

This

This near Vrana, has been raised at a considerable expence the front of it is about 150 feet, and its depth 175 : it is all built of marble, well polished, and connected; and the pieces seem to have been brought thither, from the ruins of some ancient Roman fabrick; at least, on examing them, there is reason to think so. The body of the Han is divided into two large courts, surrounded by neat decorated chambers, and well contrived galleries: the architecture of the gates, is in a bad Turkish taste, inclining to the Gothick. A part of the walls, and floors of this building, have been demolished through a foolish avidity in search for treasures.

The name of Vrana is now transferred to a wretched village, that stands about a mile from the ruins of the castle, in the very place where an eminent Turk of the last age, called Hali-Beg, had his gardens; and the squalid habitation of the Curate of the parish, still goes by the name of Hali-Beg's gardens.

A manuscript of Gliubavaz, now in my possession, though belonging to the learned Count Stratico, of Zara, contains a description of the water-works in these gardens, and of the then well cultivated adjacent fields. What changes since that period! the gardens of Hali-Beg are reduced to heaps of rubbish; and the waters that were formerly conducted by art, to adorn and refresh them, now run in disorderly streams, mixing with many others, which, a hundred years ago, were also formed into artificial channels, and conveyed into the lake.

The lake of Vrana is more famous, and better known at Venice, than any other in Dalmatia, not only on account of its considerable extent, of twelve miles, but from a project formed by

by a private person, and partly put in execution, to cut a passage, by which the water might be discharged into the sea. The late celebrated mathematician *Zendrini*, was consulted about the possibility of such a drain, but not having been on the spot, and trusting to the levels taken by some unskilful Engineer, he thought there was no other difficulty, but that of the expence, in cutting, to a considerable depth, an isthmus of solid marble, for half a mile long. The projector was not discouraged by the expence, but on the contrary, animated by the clemency of the government, undertook, and actually made a kind of sketch of the work, by opening a channel, which has since, however, remained imperfect and abandoned, these many years; and probably, will ere long, be filled up again. The intent of this outlet was to drain, and, if possible, render fit for cultivation, about ten thousand acres of land which had hitherto been always covered with water.

I went to see this arduous undertaking for the first time, in company with the Lord Bishop of Derry; and we soon found, that, whatever expence or labour could be bestowed upon it, would prove in vain; the project being physically impossible, and illusory. It is sufficient to observe the sea shore, to be convinced of this truth; for the water of the lake, making its way through the subterraneous divisions of the marble strata, actually runs into the sea, of its own accord, during the time of low water, and is only hindered from taking this course, when the tide flows, or is on a level with the lake. It is evident, therefore, from this simple observation, that whatever passage could be opened, the waters of the lake would never discharge themselves into the sea, with any great, or permanent utility to the inundated lands; and that, supposing a suitable communication was
opened,

opened, the only consequence would be, to render them subject to a more sensible alteration of the flux, and reflux of the sea.

It is certain, that the gradual rise of the level of our sea (whether it proceeds from a depression of the ground, as is the opinion of some, or whether it ought rather to be derived from some more universal cause, as I am apt to think) will always diminish the discharge of the waters, and consequently enlarge the extent of the lake, though imperceptibly, from year to year; and in the space of fifty years, the increase will appear very evident. The valuable papers of Gliubavaz shew, that the lake of Vrana was quite fresh till the year 1630; and it is the opinion of this writer, that certain subterraneous passages were opened by an earthquake, from whence proceeded a communication of waters, whereby also fishes found their way. But whoever has made any diligent observations along the shores, and west of the Adriatick, and knows the nature of the marble strata in Maritime Dalmatia, must be sensible, that this change could hardly be derived from an accidental cause, such as an earthquake, but from something more durable and progressive, as the rise of the level of the sea; in which case, the undertaking before described, must appear ridiculous.

I do not, however, think it impossible, to recover many hundred acres from the inundation, which left to itself, will be daily spreading, and will reduce the best lands near the lake to a marsh, and, at the same time, render the air of the neighbourhood very unwholesome. The method which I would propose is this: To confine to their ancient channel the waters of Smocovich, which, probably, were conveyed to the sea. Also to restrain,

strain, within some bounds, those which descend from the hills, near the village of Vrana; I mean, the stream of Scorobich, and the larger water of Biba, both which run in the same direction. It would likewise be expedient to turn the waters of Ricina, and Pecchina, along the skirts of the valley, instead of suffering them to take their present disorderly course into the lake, and so producing a real evil, when they might be usefully employed in watering the circumjacent fields, that are parched by heat. It would be further necessary, to cut deep trenches and ditches, that the water may have some course through the marshes; and to raise banks, where needful, to defend the lower grounds. This is the true and only way to draw advantage from these plains, now under water; and to render the passage, already cut, perhaps, not altogether useless; for at present, it serves no other purpose, but to facilitate a little the discharge of the water after immoderate falls of rain.

After all, in whatever state this lake is, the greatest advantage that can be drawn from it is by fishing. Eels, which are found there in vast quantities, and are at present left to the awkward method of these fishermen, would supply our internal commerce with a considerable number of barrels, if they were skilfully caught and secured in *Lavorieri*,* and from thence taken out, and salted, or pickled at the proper seasons. One of the fishing boats, employed in catching the eels in our Lagunes, might be sent thither, to teach the inhabitants of Pecosiane, and the
neigh-

* *Lavorieri* is a term used in the Lagunes of Venice, and Comacchio, and signifies, certain enclosures made with reeds, and so contrived, that the eels, when once within them, cannot find the way out. The art of *Lavorieri*, which was once proper to the Lagunes of the Adriatick, is now introduced with equal success in other parts.

neighbouring places, a better method. It is certain, that no small sum of money goes out of this state yearly, to Comacchio, for salted and pickled eels; why do we not, therefore, rather avail ourselves of the lakes and fens within the state? One of the principal objects of my observations along the coasts of Dalmatia, was the fishing; for without doubt, whatever tends to put this article on a better footing, or to introduce it, where it is not suitably exercised, becomes a source of national œconomy and interest. And as the lake of Vrana is the largest of all those that are near the sea, it seems to merit the particular attention of our magistrates, who preside over the trade, cultivation, and increase of the products within our state.

The inhabitants of this country, and, indeed, the Morlacchi in general, have a mortal aversion to frogs, and even in the times of famine (which are but too frequent, through the ill management of agriculture, and some constitutional defects) a true Morlack will rather die of hunger, than eat a frog: when I asked the Curate of Vrana, why he did not rather eat frogs than bad cheese, he was much offended, and told me, that a rascally Morlack sometimes carried them to the market of Zara, but had not yet gone so far as to eat them; adding, that this fellow was the reproach of the village.

On the Petrefactions of CERAGNE, BENCOVAZ, and PODLUK.

I found in the woods, near Ceragne, large aggregates of *Turbinites* cemented in the common Dalmatian marble, and not far from them, the same species of *Ortoceratites* that I had met with before at Uglian. There are also lenticular stones under the fort of Bencovaz; and again, at a hamlet near Podluk, in as perfect

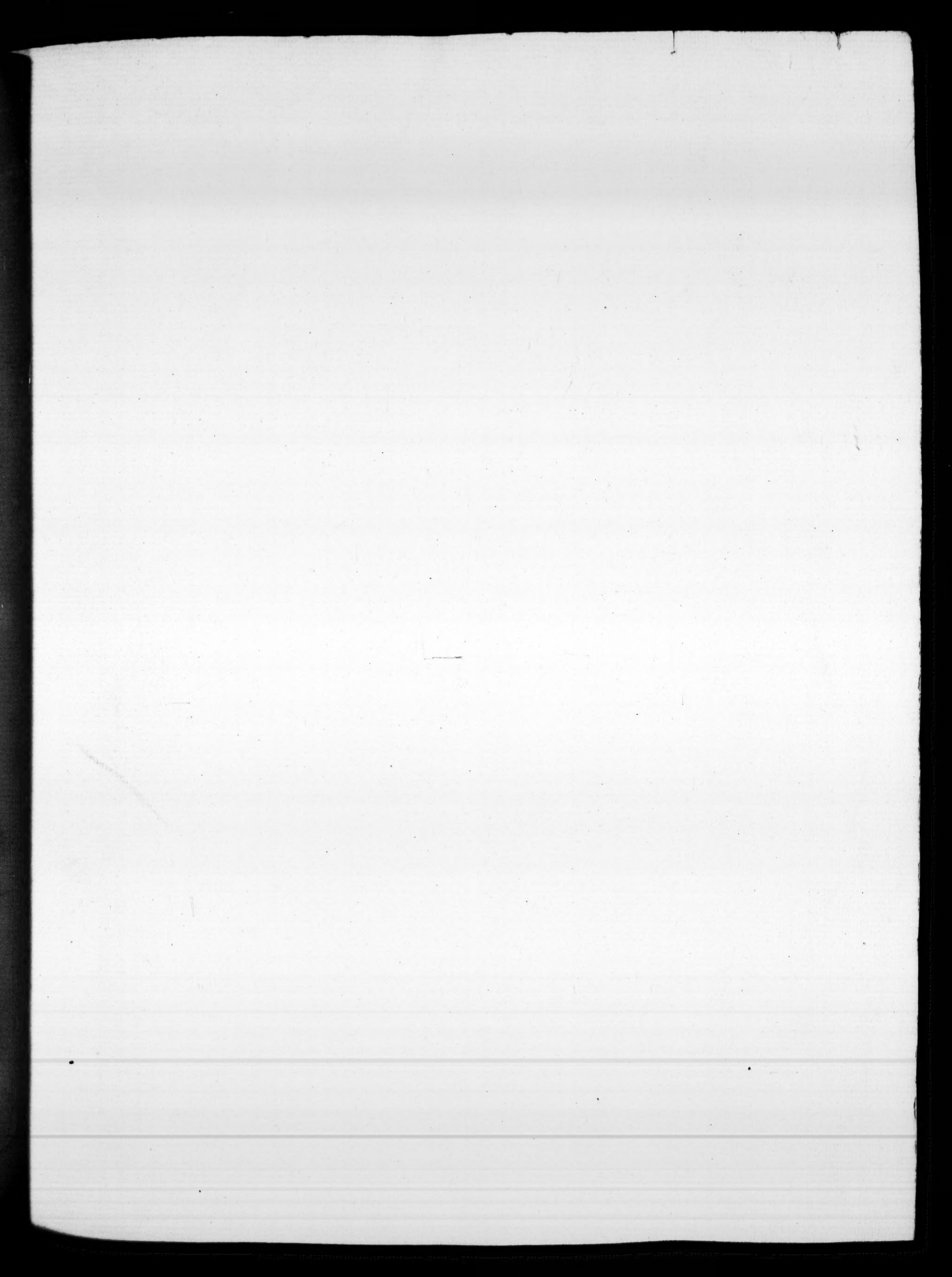
fect preservation as those of Montevaille in the Vicentine territory, and of S. Giovanni Ilarione, which are remarkably fine. Between the fort of Bencovaz, and the wood of Cucagl, there is a small extent of hills, mostly composed of a blueish marine clay, and in some parts of a very white marly earth. In the apertures made by the torrents, I collected some scattered marine bodies, some of which were *spatous nuclei* of the Turbinites, of a very lucid yellow golden colour. In general, the stone of which the hills of that neighbourhood are composed, resembles greatly the soft stone of our Italian hills. The large fields, and beautiful valleys of this district, are ill peopled, and worse cultivated; and in some places, through want of population, the streams that fall from the mountains being totally left to themselves, form stagnant pools, and greatly vitiate the natural purity of the air. The castle of *Perussich*, belonging to the noble family of the Counts Possedaria, is not however, exposed to this inconvenience of bad air, being situated on a stony hill. It also commands a great tract of country, and serves as a place of refuge to the Morlacks, in times of danger.

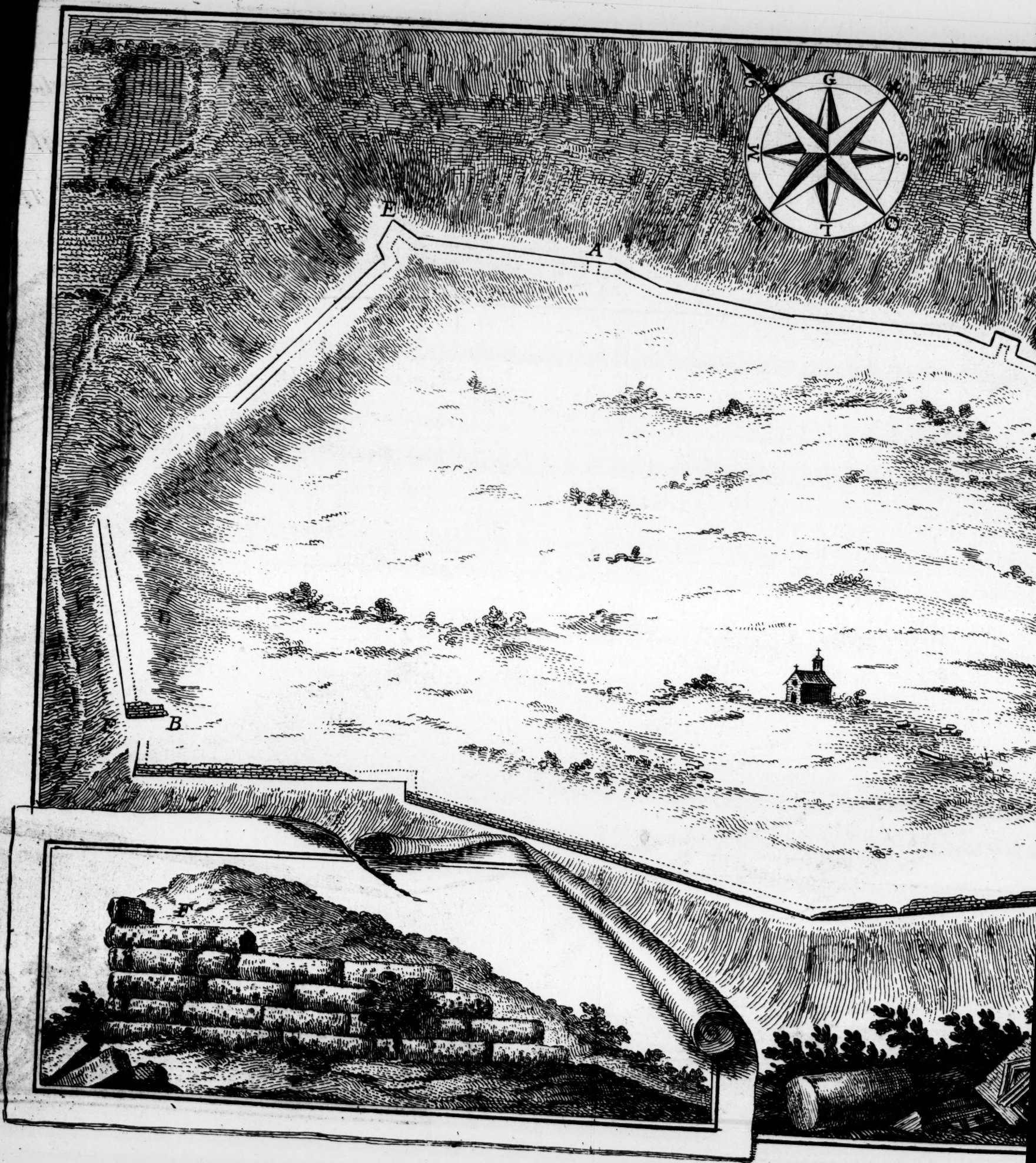
Ruins of ASSERIA, now called PODGRAJE.

A short mile from the castle, lies the poor hamlet of Podgraje; (a) which takes its name from the city, which in past ages stood, where these wretched cottages are now scattered. Peutinger's Itinery places Asseria on this spot; it is the *Assisia* of Ptolomy, and the *Assesia*, or Asseria of Pliny. This last author, after having specified the Liburnian cities that were obliged to attend the congress, or diet of *Scardona*, adds to the catalogue the free Asserians, *immunesque Asseriates*; (b) and this people, who
created

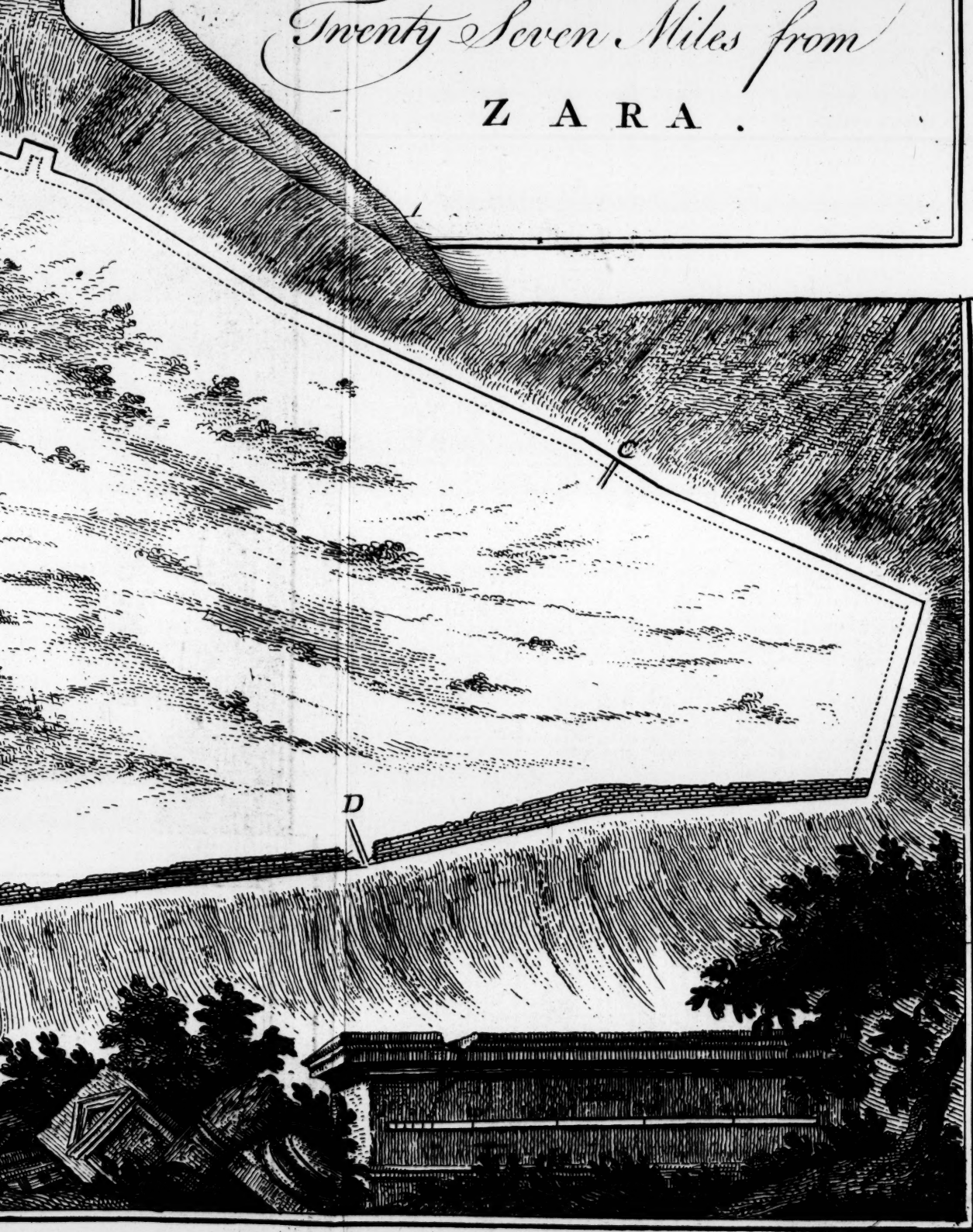
created their own Magistrates, and were governed by their own municipal laws, were, no doubt, more rich and powerful than their neighbours. Those writers on Illyrian affairs, who thought that *Zemonico* rose out of the ruins of *Afferia*, were certainly mistaken; for *Zemonico* is a fort in the district of *Zora*, sixteen miles distant from *Podgraje*. *Gluibavaz*, in his *Mss. de situ Illyrici*, fell into the same mistake, though he cannot be much blamed for it, because when he wrote, the ruins of *Afferia* were under the *Turks*, and therefore not easily open to observation.

The vestiges of the walls of *Afferia*, that still remain, (plate II.) are a sufficient proof of what I have advanced; for their circumference is clearly distinguishable above ground, and measures 3600 Roman feet. The space, inclosed by them, forms an oblong polygon, and they are built with common *Dalmatian* marble, but not taken from the hill on which they stand, for that furnishes only soft stone. The walls are invested, both inside and out, with this marble: some of the stones are ten feet long, and they are of all considerable dimensions. The thickness of these fortifications is commonly about eight feet; but at the narrowest extremity, which falls towards the foot of the hill, they are eleven feet thick; and, in some parts, their height, still above ground, reaches to near thirty feet. In one place only (A) there are manifest traces of a gate: I stood upon the curve of its arch, which some of the inhabitants remember to have seen entire. Perhaps there was another gate at (B) which now serves for the entry; and besides the gates, there are two other openings at C and D, the last not so well preserved as the first: but I cannot conjecture for what use they were intended; for they seem not to be gates, nor loop-holes, nor drains.





*Plan of the Walls of the CITY of ASERIA ,
taken at the Village of POD GRAJE ,
Twenty Seven Miles from
Z A R A .*



Jac. Leonardis scul.



drains. The middle bastion E, merits particular observation, as it agrees very well with modern military architecture; and a Professor of that noble art would find many things besides this worthy of his attention. An antiquary, or even a simple lover of the fine arts, or of erudition, cannot help wishing at Podgraje, that some powerful hand, *Quicquid sub terra, est in apricum proferit*: and such a wish becomes stronger, when he reflects, that since the destruction of that city, no search has ever been made under ground, with a view to discover any thing curious; and yet these walls, without doubt, inclose a valuable deposit of antiquities, thrown down in heaps, who knows by what cause; perhaps naturally, by an earthquake, or perhaps, by a sudden inundation of barbarians, which is still worse. The gate now demolished, the considerable height of the walls to be seen in several places from without, some pieces of thick walls, that still appear levelled to the ground among the bushes, are circumstances, which give ground to hope that many costly monuments might be recovered out of these ruins. The magnificence of the wall F, and the many pieces of well cut stone, and fine marble scattered over the contiguous fields, afford sufficient proof, that both good taste, and grandeur once flourished in that country. In the midst of the rubbish, which covers the remains of Asseria, the parish church of the little village stands insolated; it is built of broken pieces of ancient ruins, taken as they happened to be nearest, mixed with mutilated inscriptions, and fragments of noble cornices.

The Morlacks, who inhabit Podgraje, formerly paid some attention to stones, on which they saw any thing remarkable, when they met with them in ploughing, or digging; but ever

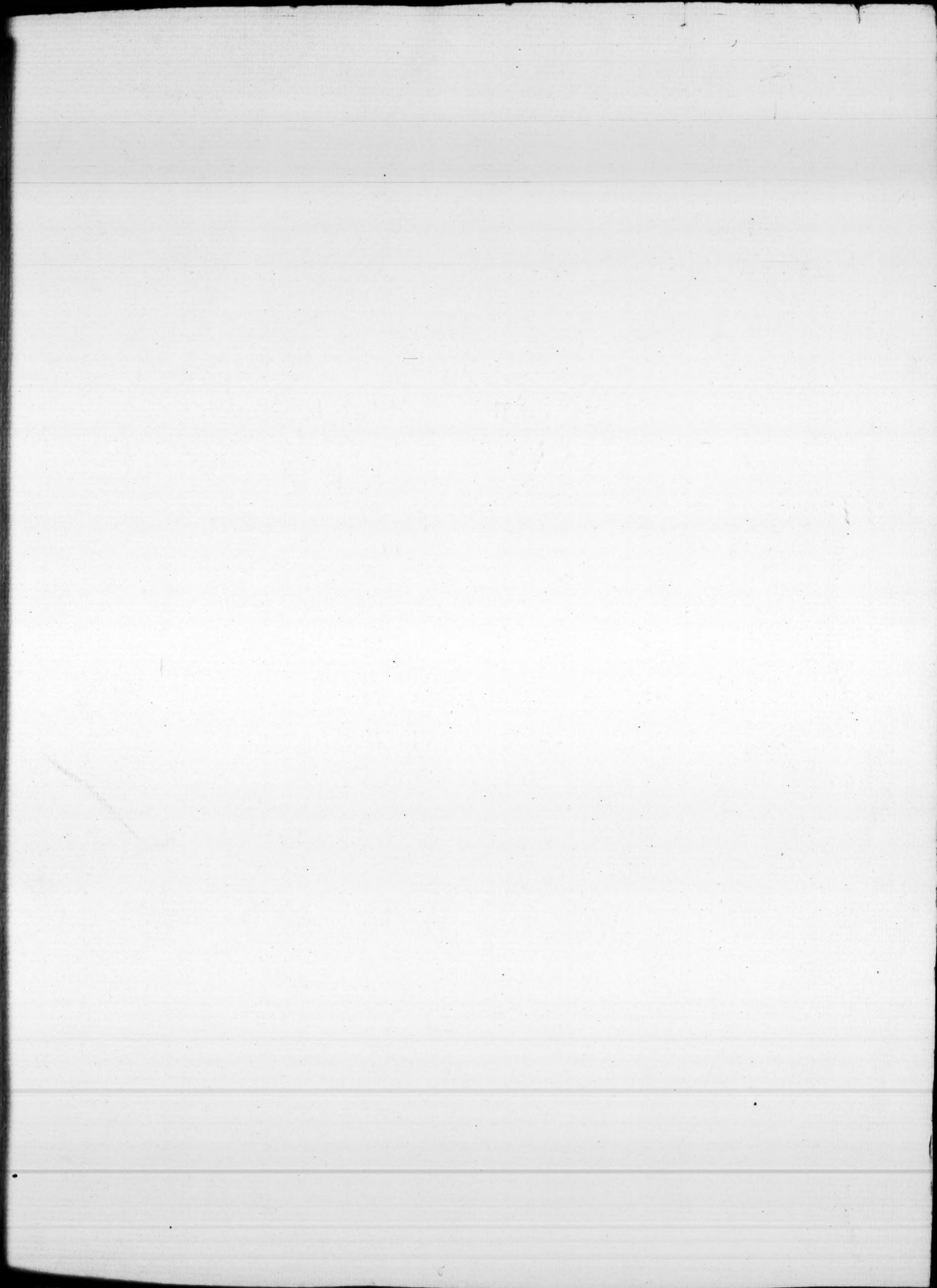
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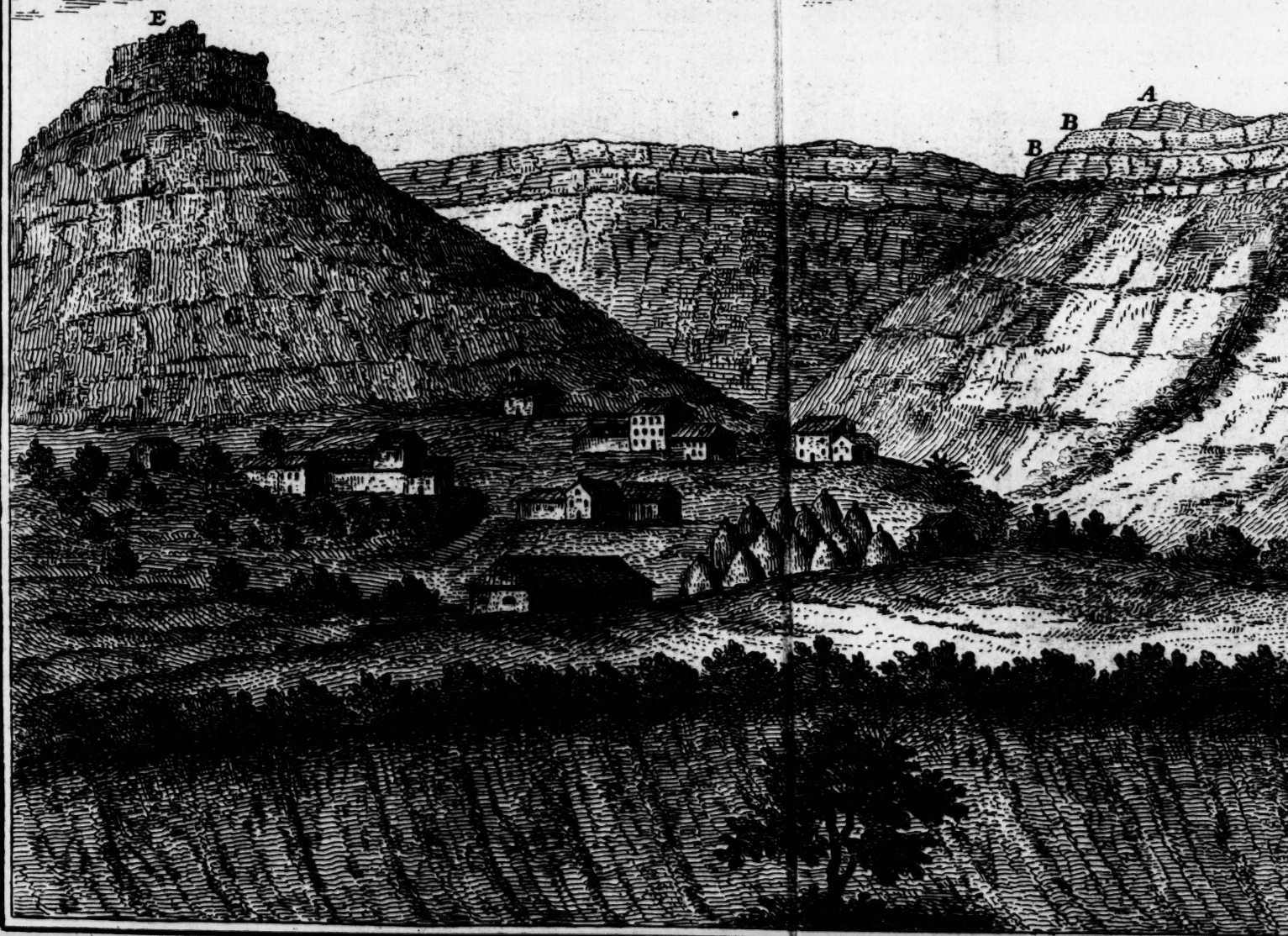
since they were forced to drag some sepulchral columns, without any reward, to the sea-side, they have vowed perpetual enmity against all inscriptions ; and the moment they discover them, they either break, or bury them under ground, deeper than they were before ; and in justice, they ought not to be accused of barbarism on this account ; for there is an easy way of making them become, not only preservers of, but searchers for ancient monuments ; and that is, only to give them hopes of some premium for their discoveries, and labour. I found by accident, in the house of the Morlack *Jurcka*, a sepulchral monument, and bought it for very little money, which, with some other such acquisitions, I shall bring with me into Italy. It is no difficult matter to gain the friendship of the Morlacks ; and from thence many useful discoveries might be derived. I flatter myself I could do this, as I know the temper of the people ; and therefore I have left Podgraje, with an earnest desire to be able to return, furnished with the necessary means of making subterraneous discoveries.

Of the Manna of COSLOVAZ.

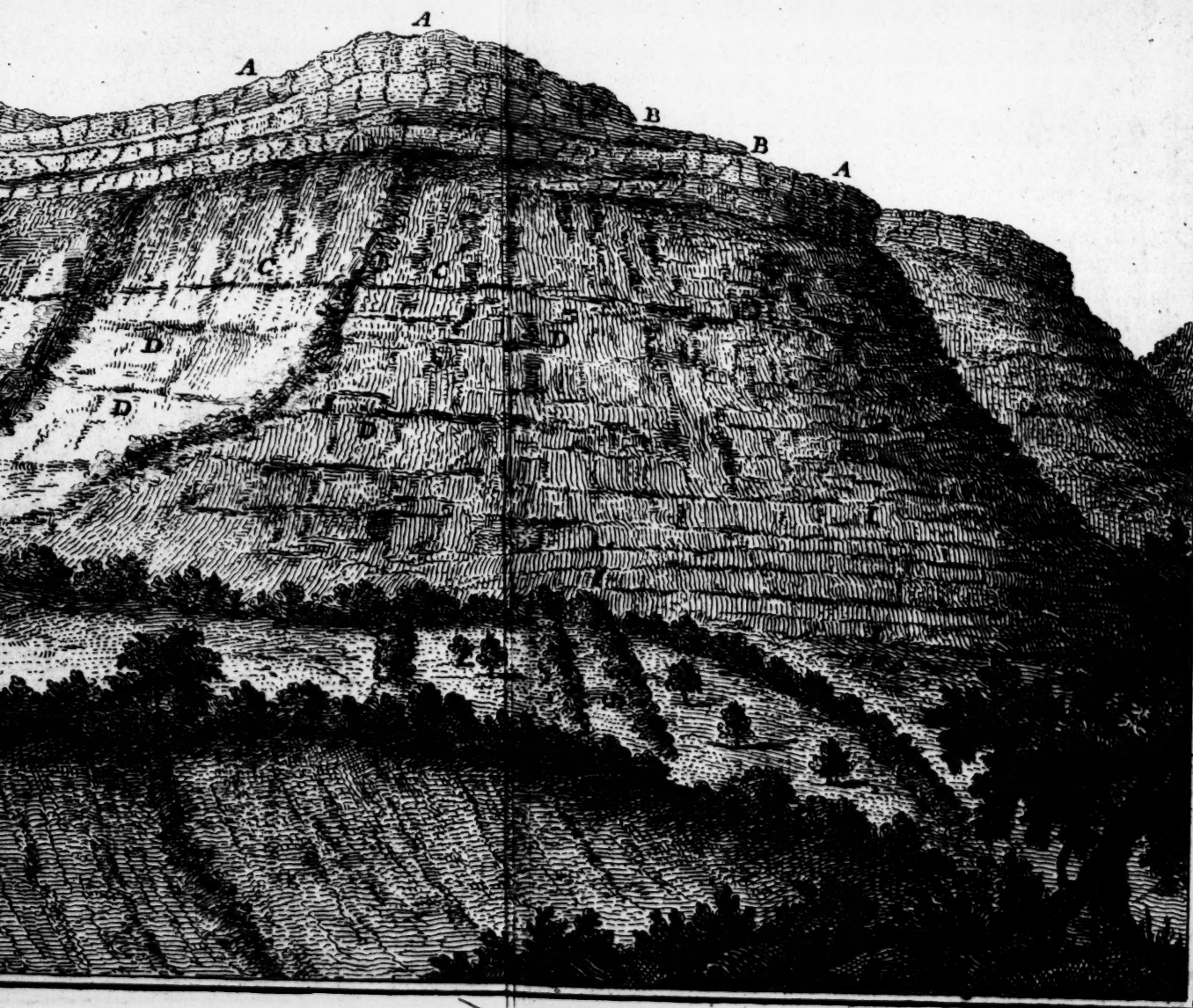
Coslovaz is a poor place, like the other hamlets of these parts, but the woods of its district are well stored with *Fraxzini*, which yield Manna in abundance, when the requisite incisions are made. The Morlacchi know nothing about incisions, and were equally ignorant of the produce of these trees, till two years ago, when a person went there to try experiments, by permission from the Government. His experiments however did not answer, the season happening to be cooler than usual, so he lost patience, and abandoned his project ; yet when the heat returned,



View of OSTROVILLA & the STRATA of the Upper



Upper Hills parallel to the CASTLE



Jac. Leonardis sculp



returned, the trees gave a prodigious quantity of Manna, which the Morlacks finding of a sweet taste, eagerly devoured; and several of them were near losing their lives, by the violent evacuation it occasioned: so in a few days the Manna remained only a food for the hogs and turkeys.

Of OSTROVIZZA.

Ostrovizza, which some would have the same as *Arauzona*, and others, the *Stlupi* of the ancients, though probably, it has no connection with either the one or the other, was purchased in 1410, by the Republick of Venice, for five thousand ducats, and some pieces of land besides. Its fortress, which was seated on a rock, perpendicularly cut all round, and deservedly reckoned impregnable, before the use of artillery, was taken by Soliman in 1524, but soon after returned under the dominion of Venice. At present, no traces of its fortification remain, and it is only a bare, and isolated mass.

I have had a small view of the hills of Ostrovizza drawn, (plate III) because their tops shew the duplicity of the divisions of the strata very plainly, and may serve to undeceive those, who might too readily believe, that the appearances of perpendicular divisions co-existed with the strata themselves, according to the law of stratification. The lines, AAAA, which cut almost always, at right angles the horizontals, BBBB, are so many visible proofs of the work of wasting waters; these have made their way down the side of the hill, cutting rivulets in it, CC, which in some places hide the horizontal divisions, DDDD.

The

The strata that form the summit of the mass E, on which the ancient castle stood, are of gravel, of various sorts and colour; some are of quartz, and some contain marine fossil bodies: The stratum F, is of a stone like that of Nanto in the Vicentine, which resembles the *Moilon* of the French. In rambling around the rugged hill GG, I collected several *Nummales*, both of the ordinary species's which has its spires, or circumvolutions, hid, and of that less common, which shews them on its surface; besides an excellent specimen of a species of *Chama*, and among other fossils many fistulous Coralloids, and African *Echinites*, but in bad condition. I saw besides, various turbinated univalves, particularly *cocleæ*, and the common *Buccina*, with some rare specimens of an exotic species of *Fungites*, orbicular, flattish, and sometimes rather hollow in the middle, not the third part of a line thick at the edges, and commonly not above an inch in diameter. On the hill, where the castle formerly stood there are signs of a stratum of very beautiful spotted marble, composed of small marine fragments, and of volcanic sand, worn smooth, and rounded by water.

The covered stratum H, is of a blueish hardened clay, like that of which the foot of the contiguous hill is composed, and a row of other little hills which extend to Brebit, and from thence to Scardona. And here I must take notice, that I cannot agree with the celebrated *Raspe*, who attributes these vertical fissures in the calcareous strata, as well as many other similar phenomena, to earthquakes. Their subdivisions appear too minute and regular, to be derived from so sudden, and violent an agent; add to this, that I have often observed in Dalmatia, that the

the solid masses of marble have their fissures likewise, and of the same nature in every respect as these just taken notice of. These fissures are ingeniously accounted for by the learned Passeri, in his *Natural history of fossils of the territory of Pesaro*; a work, that well deserves to be reprinted, and to be better known beyond the Alps. I am however by no means averse to allow with M. Raspe, and my friend Passeri (who, by the by, seems partial to the Hookian system) a great deal to the force of earthquakes, and vulcanic fire, which is the cause of them, when the question is to explain the greater fissures and openings, or the subversions of mountains. But examples of great bodies thrown out of equilibrium, and overturned by the long slow labours of subterraneous waters, have so frequently occurred to me, in my travels through Italy, and this country, that I dare not prefer more unknown and remote causes to them.

Not many years ago, a fen, near the village of Ostrovizza, was struck with lightening, and its bottom being turf, it burnt a long time underground; though the fire was visible only in the night; after it was extinguished, the whole fen remained black, and the upper soil became barren; and it was just that blackness that raised my curiosity to observe it.

Your Lordship will agree with me, that we have a right to place lightening among the original causes of vulcanos; for if a thunderbolt fall in a mountain of sulphur, would it not in all probability, make a much greater explosion and have more remarkable consequences, than falling on the wet turfy fen of Ostrovizza? and I remember to have read somewhere, that when Linnæus was travelling through the island of Oeland, he saw at Moc Kelby several heaps of minerals, from which the alum had
been

been extracted, that had accidentally taken fire, two years before, and were still burning. This little volcano had many of the characters of the Solfatera of Pozzuoli. Kempfer, in his voyage to Japan, has taken notice of a volcano, that had its origin from the casual accension of a mine of fossile coal.

A small wood, not far from hence, produces in the autumn and spring an enormous species of *Fungus*, that perfectly resembles the Carrarise, upon which the learned Sig. Merfili Professor of Botany in the University of Padua, has given us an excellent little treatise.* The vipers affect that situation, and multiply more there, than in any other place near it. The Fraxini also hereabouts gives plenty of Manna, and of excellent quality; but the Morlacchi have not yet learned how to make the simple operation requisite, in order to obtain it, by distillation from the branches.

Of the River BRIBIRSCHIZA, and of MORPOLAZZA.

That I might be able to examine the waters, which form the lake under Ostravizza, all along their course, I crossed the fields, till I came to the head of the large stream Bribirschiza, which issues from the bottom of a steep hill, on which are still seen the ruins of Bribir, the ancient residence of a powerful family of the Bans of Dalmatia, who made a great figure in the 14th century. In examining the course of the Bribirschiza, I found many adventitious specimens of the large *Ostracites*, though disfigured by fluctuation; and near the source, I saw several species of *Turbinites*,

* *Fungi Carrariensis Historia*, Pat. 1766, 4to.

binites, and fossil Bivalves semicalcined, well preserved, and pellucid, in a blueish stony clay; but not one of all the variety that I observed, lives in our seas. The large broken masses on the banks of the stream, some of which seem to have tumbled from the top of the hill, are of submarine formation, and contain imprisoned, amidst the gravel, a great variety of calcined testaceous bodies, which are still distinguishable, notwithstanding their being also disfigured; and some of them appeared to be natives of this country.

In my return to the sea coast, I traversed the large and beautiful plain of Morpolazza, flanked by hills, thinly inhabited, and divided, by a channel intended to carry off the waters of the neighbouring streams, and pools. The soil of this plain, which lies almost all uncultivated, is a kind of marle, to the formation whereof, the shells of small *Turbines* seem to have contributed; for every year, immense quantities of them are left by the waters, which falling from the superior hills at Sopot, usually overflow it. The channel of Morpolazza falls into the lake of Scardona, after a course of thirty miles, under the name of *Goducchia*. It is probable, that formerly there was some Roman establishment on the bottom, near the place where the Church of St. Peter of Morpolazza now stands; for some remains of hewn stones, and fragments of inscriptions, are still to be seen. The *Arausa* of the itinerary of Antonnius cannot be far from this place; and certainly those who imagined that *Arausa* or *Aurozona* is *Zuonigrad*, must be very far from the truth, for *Zuonigrad* stands at least thirty miles farther within land, and far from the road which that Emperor took.

There

There are fossil marine bodies between Ostrovizza, and Morpolazza, upon the hills of Stancovzi, and between Morpolazza and the sea, on all the skirts of Bagnevaz, and Radeffinovaz.

There were many other Roman establishments in the district of Zara, of which, although even their names are lost, the traces may be found by the help of the *Charta Peutingeriana*; some of the names still remain; as, *Carin*, and *Nadin*, which rose from the ruins of Corimum and Nedinum; but as I did not see them, I can give no account of what is to be observed about them; only I was told, that the vestiges of an Amphitheatre still remain near Carin.

I chose to mention, though perhaps with a tiresome precision, all the places where I found any fossils of marine origin; and all the plains, and rich pleasant valleys, which I saw in my ride through a small part of the district of Zara; that your Lordship might not suffer yourself to be deceived by what Donati* has written, though indeed with little truth, of the *eternal rocks* of Dalmatia, and of the continuity of I know not what *marble rock* which composes it; as well as of the rarity, or difficulty of distinguishing any marine fossil bodies. It cannot be denied, that some of the mountains in that kingdom are rugged, and frightful; but it must be added, that there are also large districts where no mountain exists; and that even among the mountains themselves, there are very pleasant and fertile valleys. The same Donati, who was my townsman, a Paduan, has also, in his *Saggio*, given rather an unfavourable character of the people, who inhabit the inland

* Donati Saggio di Storia Nat. p. 8, 9.

inland parts of the Province, and was undoubtedly in the wrong to tell us, that *fear of the barbarity of the people, and the danger of making researches*, hindered Spon and Wheeler from proceeding into midland Dalmatia ; for these two travellers were bound to the Levant, and embarked in a Venetian ship of war ; consequently, when they landed at any port, they were not at liberty to make any distant excursions. Besides, Spon found so much generous hospitality in the maritime places, and especially at Spalatro, and was so well satisfied with the honesty and reasonableness of the Morlack guides, who accompanied him, in some short rambles on horseback, that he never could dream of fearing *the barbarity of the inland people*. It is easy to consult Spon himself, in the first volume of his travels, where he gives an account of his jaunt to Clissa ; and if your Lordship will have the patience to read, one day or other, the detail of what I have personally experienced on that head among the Morlacks, you will no longer believe that people barbarous to such a degree, as to render travelling in their country in the least *dangerous*.

G

T O

10

TO

HIS EXCELLENCY

J. MOROSINI,

NOBLE VENETIAN.

Of the Manners of the MORLACCHI.

THOUGH I am deprived, by my distance from Venice, of the honour I formerly enjoyed of being often near you, and can but seldom find opportunities of sending you letters by sea, yet I must not neglect to write to you by such occasions as present themselves, however precarious. Your Excellency will probably receive this letter a long time hence; but I am fully persuaded, that, whenever it reaches your hands, it will meet with a gracious reception, in consequence of the friendship which you have condescended to honour me with, and the pleasure with which you constantly receive every intelligence that tends to promote the progress of natural history, and the sciences in general.

You

You have, no doubt, often heard the Morlacchi described as a race of men, fierce, unreasonable, void of humanity, and capable of any crime. The inhabitants of the sea coast of Dalmatia tell many frightful stories about the cruelty of those people, that, induced by the avidity of plunder, they often proceeded to the most atrocious excesses of violence, by fire and sword. But these facts (though the truth of them is sufficiently authenticated, by the known veracity of those who relate them) are either of ancient date, or if some have happened in later times, they ought rather, from the characters they bear, to be ascribed to the corruption of a few individuals, than to the bad disposition of the nation in general. It is but too true, that, after the late wars with the Turks, the Morlacchi, habituated to murder and plunder with impunity, gave some examples of cruelty and rapine: but what instance can be given of troops just returned from war, and dismissed from the exercise of arms, against the enemy of their sovereign, that have not peopled the woods and highways with thieves and assassins? I think it, however, a duty incumbent on me, to write what I personally saw relative to their customs, and inclinations, and thereby to form some apology for that nation, by which I was so well received, and treated with so much humanity. And I am the more readily disposed to do this, as it can hardly be thought to proceed from interested views; it being unlikely that I shall ever return into these parts of Morlacchia, where I have already been. It is usual for travellers to magnify the dangers to which they have been exposed, and the hardships they have suffered in remote countries; but I am far from that kind of affectation, and you will see by the detail that I am going to give you, of the manners and customs of the Morlacchi, with how great security and ease I travelled amongst them, and

and with how well grounded a confidence I should be animated to prosecute my researches, if circumstances permitted.

Origin of the MORLACCHI.

The origin of the Molacchi, who inhabit the pleasant valleys of Kotar, along the rivers Kerka, Cettina, Narenta, and among the mountains of inland Dalmatia, * is involved in the darkness of barbarous ages, together with that of many other nations, resembling them so much in customs and language, that they may be taken for one people, dispersed in the vast tracts from the coasts of our sea to the frozen ocean. The emigrations of the various tribes of the Slavi, who, under the names of Scythians, Geti, Gaths, Huns, Slavini, Croats, Avari and Vandals, inundated the Roman provinces, and particularly the Illyrian, during the decline of the empire, must have strangely perplexed the genealogies of the nations which inhabited it, and which, perhaps, removed thither in the same manner at more remote periods of time. The residue of the Ardiei, Autariati, and other Illyrian people, anciently settled in Dalmatia, who probably could not reconcile themselves to a dependance on the Romans, might nevertheless, naturally enough unite themselves to foreign invaders not unlike themselves in dialect and customs. † And it

* The country inhabited by Morlacchi is of much larger extent, not only towards Greece, but towards Germany and Hungary; but I confine my account to the small part of it which I saw.

† It cannot be doubted that the Slavonian language existed in Dalmatia, even from the times of the Roman republick. The names of many cities, rivers, mountains, families and people in those parts, preserved to us by Greek and Latin writers, are manifestly Slavonian. Promona, Alvona, Senia, Jadera, Rataneum, Stlupi,

it seems no ill founded conjecture to suppose, that many families of that last inundation of Tartars, who in the beginning of the thirteenth century, forced Bela 4th king of Hungary to take refuge in the islands of Dalmatia, remained, and peopled the deserted vallies in the mountains, and left those tracts of the Calmucks which are still distinguishable, especially in the territory of Zara.

There seems to be no great foundation for the opinion of the geographer Magini, who thinks the Morlacchi and Uscoci derive their origin from Epirus. Their dialect has a much greater resemblance to the Rascian and Bulgarian, than to the Albanese; and if it were allowed, that a part of the Morlacchi of Venetian Dalmatia had, in latter times, removed from those parts, the difficulty still remains to account from whence they came thither. Magini also makes a separate nation of the Haiduks, who never formed a people, as appears by the very signification of the word itself. *

Etymology of the Name.

The Molacchi generally call themselves, in their own idiom,
Vlassi,

Stlupi, Uscana, Bilazora, Zagora, Tristulus, Ciabrus, Ochra, Carpatius, Pleuratus, Agron, Teuca, Dardani, Triballi, Grabaci, Perustæ, and many other words, which frequently occur, in the writings of ancient historians, and geographers, prove this sufficiently. A much greater number of words derived from the Slavonian might be added, from the inscriptions in many parts of Dalmatia, under the first emperours.

* Haiduk signifies properly chief of a party, and sometimes (as in Transilvania) head of a family; in Dalmatia it is understood to characterize a rogue, a bandito, highway-man.

Vlassi, a national term, of which, as far as I have been hitherto able to discover, no vestige is found in the records of Dalmatia before the thirteenth century: it signifies men of authority, or powerful. The denomination of *Moro-Vlassi*, and corruptly *Morlacchi*, as the inhabitants of the towns call them, might perhaps point out their original to us; that by great journeys, they came from the coasts of the black sea to invade these distant kingdoms. I think it not unlikely (although I undertake not strenuously to defend my conjecture) that the denomination of *Moro-Vlassi* signified, at first, the powerful, or conquerors that came from the sea, which is called *Moor* in all the dialects of the Slavonian language. Little regard can be had to the etymology of the name *Morlacchi*, imagined by the celebrated historian of Dalmatia, *Johannes Lucius*, and copied from him by his compiler *Freschot*, because it is evidently too far fetched. He pretended that *Moro-Vlassi*, or *Moro Vlaxi*, signifies *Neri-Lotini*; although, in good Illyrick, the word *Moor* does not correspond to *black*; and besides, our *Morlacchi* are full as white as the Italians. To support more plausibly the second part of this etymology, finding that the common root of the national names *Vlassi* or *Vlaki* and *Valacchi* is the word *Vlab*, indicating power, authority and nobility, he concluded that the inhabitants of *Valacchia* and our *Vlassi* must be one and the same thing. But the *Valacchi* speak a language not a little resembling the Latin; and being asked the reason, they answer that they are originally Romans; consequently our *Vlassi*, although their language differs a little, are also Romans. Besides these *Vlassi* descended from Latin colonies were afterwards subdued by the Slavi, and hence the singular name *Vlab* and the plural *Vlassi*, among the Slavi, became ignominious and servile, insomuch that it was also extended to men of the lowest condition among the Slavi themselves. Now in answer to all these frivolous assertions, it is sufficient to observe,

observe, that our Morlacchi are called *Vlassi*, that is, *noble* or *potent*, for the same reason that the body of the nation is called *Slavi*, which means *glorious*; that the word *Vlab* has nothing to do with Latin, and though it be the root of the name *Volacchi*, it is so, because, notwithstanding the colonies planted by Trajan, the general population of Dacia consisted, as every body knows, of people, who spoke the Slavonian language; and those who came there, in after ages, did the same. If the Slavi, when conquerors, had given, or left a name to the conquered people, they certainly would not have given or left one, which signifies nobility, or power; for they of necessity must have understood it, being a pure original Slavonian word: And perhaps Lucius was in bad humour with the Morlacchi, when he laboured to vilify them even in the etymology of the name they bear. It is very true, that many words of Latin original are found in the dialect of the Illyrians, who inhabit the islands; such as, *salbun*, *plavo*, *slap*, *vino*, *capa*, *rossa*, *tepo*, *zlip*, *sparta*, *skrinia*, *lug*; which signify, *sand*, *yellow*, *fall of water*, *wine*, *cape*, *dew*, *tepid*, *blind*, *basket*, *chest*, *wood*; and are evidently derived from *fabulum*, *flavus*, *lapsus*, *vinum*, *caput*, *ros*, *tepidus*, *lippus*, *sporta*, *scrineum*, *lignum*: yet from these, and many more which might be easily added, I do not think it can be reasonably concluded, that the Morlacchi of our days are descendants, in a right line from the Romans, who settled in Dalmatia. It is the common defect of writers on the origin of nations, to draw general consequences from trivial and particular *data*, which depend very often on casual and transitory circumstances. I am fully persuaded, that the investigation of languages would lead to a discovery of the origin of the nations by whom they were spoken; but I am also convinced, that, to prevent gross mistakes, the most acute criterion is necessary, in distinguishing adventitious from primitive words. The Illyrick language, which is widely spread

spread from the Adriatick to the ocean, has a very great number of roots like those of the Greek, and some are to be found, even among the numerical words, which cannot be denied to be indigenous. There are also many Sclavonian terms perfectly Greek, such as, *spugga, trapeza, catrida*, transposed, without any material difference, from *σπόγγος, τραπέζα, καθεδρά*. Yet the frequency of grecisms, and the analogy of the alphabet, are by no means sufficient to induce me to assert, that the vast Sclavonian nation is descended from the Greeks, who were confined to a narrow tract; nor even, though more likely, that in far distant ages, the Sclavonians had invaded and peopled Greece. Very long and laborious studies would be requisite to clear up such ancient facts; nor is it, perhaps, possible.

A learned Englishman takes notice of the analogy between the English and Illyrick tongues,† and, indeed, not without some reason; for the words *stina, meso, med, biskup, brate, sestra, sin, sunze, mlika, snigh, voda, greb*, are not unlike the English, *stone, flesh, mead, bishop, brother, sister, son, sun, milk, snow, water, grave*; but it remains to be examined, whether these words were not derived from some dialect of the ancient northern Celti, and brought over by the Saxons into that noble island. However, at all events, I would not pretend to decide on so obscure a subject, unless I perceived a palpable resemblance between the body of one language and another; for many words of similar sound and meaning may happen to be found in different languages, although the origin of the respective people have no manner of connection. For instance, the Italian has a considerable mixture of exotic words, and yet it cannot be reasonably

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sonably.

† Brerewood, de scrut. Relig.

sonably said, that the Italians are descended from foreign nations. Besides its affinities with the Arabick, Greek, German, and French languages, as observed by Muratori and others; the resemblance it has with the Slavonian dialect is very great, tho' nobody has hitherto endeavoured to prove that our ancestors came from thence.

Origin of the MORLACCHI different from that of the Inhabitants of the Coast and Islands.

The inhabitants of the maritime towns, true descendants of the Roman Colonies, are no friends to the Morlacchi, who, in return, look upon them, as well as the inhabitants of the islands, with the greatest contempt: which reciprocal dislike, no doubt, proceeds, in part, from ancient discord between the two races. A Morlack bows indeed, before a gentleman of the city, or an advocate, of whom he stands in need, but loves them not; and treats all others, of whom he is independent, with the name of *Bodolo*, which, according to his meaning, is an injurious term. This puts me in mind of the Morlack soldier, who is still remembered in the hospital of Padua where he died. The priest appointed to assist him in his last moments, not knowing the force of the word, begun his exhortation, with "Courage Signor *Bodolo*!" "Friar, interrupted the dying man, do not call me *Bodolo*, or you will make me damn myself."

The great difference in dialect, dress, disposition, and customs, between the maritime and transalpine inhabitants of Dalmatia, seems clearly to prove, that they sprung not from the same origin; or, at least, it must have been at very distant periods, and with circumstances capable of altering their
national

national character. There is also a remarkable diversity among the Morlacchi themselves, in several districts; derived, perhaps, from the different countries from whence they came. For the inhabitants of *Kotar* are generally fair, with blue eyes, a broad face, and flat nose; and those of the plains of *Seign* and *Knin*, resemble them much; but those of *Duare*, and *Vergoraz*, have dark coloured hair, a long face, tawny colour, and tall stature. The qualities of their mind are also as different as those of the body; for the Morlacchi of *Kotar* are generally mild, respectful and tractable; but those of *Vergoraz* are surly, proud, bold, and enterprizing. They have also a very strong inclination to theft; owing, in part, to their situation among inaccessible and barren mountains, where they are often exposed to want, but are sure of impunity; and, perhaps, the ancient blood of the *Varali*, *Ardiei*, and *Autariati*, who were confined among those mountains by the Romans, still runs in their veins. For the most part, their robberies fall on the Turks; though, in cases of necessity, they are said to use the same freedom with the Christians. Among the artful and bold strokes of knavery, which they tell of one of these *Vergorzani*, the following is characteristick. The rogue was at a fair, and a countryman having bought a copper kettle, laid it down, together with his bundle, just by his side; the Vergorvan, who stood hard by, took up the kettle, while the peasant was talking to an acquaintance, and set it on his head, without stirring from his place; the other, having finished his conference, turned about to take up his things, but the kettle was gone, and asking him, who had it on his head, if he had not seen somebody carry it off, he was answered; "Truly, Friend, I was not minding these things, but if you had put your kettle on your head, as you see I did, you would not have lost it." Yet, notwithstanding these mischievous tricks,
which

which they say are frequent enough, a stranger may travel securely among them, is faithfully escorted, and hospitably treated.

The greatest danger to be feared, is from the Haiduks, of whom great numbers have retreated among the woods, and caves of those dreadful mountains on the confines; there, a traveller ought to get himself escorted by a couple of these honest fellows, and he is quite safe; for they are not capable of betraying him, although a banditti; and, indeed, their case is commonly more apt to raise compassion, than diffidence; for their character is not essentially bad; if it were so, their numbers would soon become very formidable to the maritime inhabitants of Dalmatia. They lead their life among the wolves, wandering from one precipice to another, agitated by continual fears and suspicions, exposed to the severity of the seasons, and often deprived of the necessaries of life, languish in the most solitary hideous caverns. It would be no wonder, if such men, irritated by the constant view of their miserable situation, were to commit acts of violence, especially against those to whom they attribute the cause of their calamities. Yet they very seldom disturb the tranquillity of others, and prove always faithful guides to travellers. The chief objects of their rapine are oxen and sheep, to supply themselves with food and shoes; and I have often heard them bitterly and justly censured, for the barbarous indiscretion of killing a poor man's ox, in order to serve themselves only with a small portion of the meat, and the skin. This certainly admits of no apology; yet humanity bids us reflect, that the things coveted by these wretches, are articles of the greatest necessity, as they are condemned to live among desolate mountains, which have no covering either of grass or earth, and are full

full of hard sharp stones, that have been rendered still more rough and cutting by the action of the air and time. It happens sometimes, in their extreme necessity, that the Haiduks go in parties to the shepherds cottages, and rudely demand something to eat, which they immediately take by force, if the least hesitation is made; though they seldom meet with a refusal, or resistance, as their resolution and fury are well known to be equal to their wants, and to the savage life which they lead. Four Haiduks are not afraid to assault a caravan of fifteen or twenty Turks, and generally plunder and put them to flight. When a Haiduk happens to be taken by the *Panduri*, they do not bind him, as our *Birri* are used to do, but untying the string of his breeches, they fall down on his heels, and prevent a possibility of escape, if he attempted it; a humane contrivance to secure a man without binding him like a beast. The greatest part of the Haiduks look upon it as a meritorious action, to shed the blood of the Turks; a mistaken zeal for religion, joined to their natural and acquired ferocity, easily lead them to commit such acts of violence; and the ignorance, and national prejudices of their priests are too apt to inflame their barbarous fanaticism.

On the moral and domestick Virtues of the MORLACCHI.

The morals of a Morlack, at a distance from the sea coast and garrisons, are generally very different from ours. The sincerity, trust, and honesty of these poor people, not only in contracts, but in all the ordinary actions of their life, would be called simplicity and weakness among us. It is true, that the Italians, who trade in Dalmatia, and the littoral inhabitants themselves, have but too often taken advantage of this integrity; and hence the

Morlacchi

Morlacchi are become much more diffident, than they were in former times; infomuch, that the want of probity, which they have so often experienced, in dealing with the Italians, is passed into a proverb among them, and the words *passia-viro*, and *Lanzmanzka-viro*, that is, the faith of a dog, and faith of an Italian, are used to express the same reproachful meaning. This prepossession against us might prove incommodious to an unknown traveller, and yet it seldom happens. For the Morlack, naturally hospitable and generous, opens his poor cottage to the stranger, and serves him to the utmost of his power, without demanding, nay, often obstinately refusing, the least recompence; and I have more than once got a dinner from one of those men, who knew nothing about me, had never seen me, and could not expect ever to see me again.

I shall never forget the cordial reception and treatment given me by *Pervan Vajvod*, of *Coccorich*; to whom I had nothing else to recommend me but my being in friendship with a family who were also his friends. He sent his horses, and an escort to meet me on the road; and, during the few days which I spent in that neighbourhood, loaded me with all the luxury of national hospitality. He sent his own son, and several of his people, to escort me as far as the plains of *Narenta*, a good day's journey from his house, and furnished me with provisions in abundance; and all this was done without my being allowed to spend a single penny. On my departure from that hospitable mansion, he and all his family came out and followed me with their eyes, till I was out of sight; which affectionate manner of taking leave raised a kind of agitation in my mind, which I never felt before, and can scarcely ever hope to feel again, in travelling over Italy. I took along with me the portrait of my generous host,

(P. 4.)

The Vajvoda Pervan

of Cocco rich.



A Noble Young Lady



Young Lady of Coccorich.



A Young Lady of the Kotar.





(P. 4.) that, in spite of the interposition of sea and mountains, I might have the pleasure of beholding him, at least, in effigy; and also to give an idea of the luxury of the Morlacchi, in the habits of their chiefs. *Peran* also gave me leave to take a drawing of the dress of one of his nieces, which is very different from that of the young women of *Kotar*, and of the other Morlack territories that I had seen.

The Morlacchi are extremely sensible of mild treatment, and, when they meet with it, are ready to perform every possible service, and to become cordial friends. Their hospitality is equally conspicuous among the poor as among the more opulent. The rich prepares a roasted lamb, or sheep; and the poor, with equal cordiality, gives his turkey, milk, honey, or whatever else he has. Nor is their generosity confined to strangers, but generally extends itself to all who are in want.

When a Morlack is on a journey, and comes to lodge at a friend's house, the eldest daughter of the family, or the new married bride, if there happens to be one, receives, and kisses him when he alights from his horse, or at the door of the house. But a foreigner is rarely favoured with these female civilities; on the contrary, the women, if they are young, hide themselves, and keep out of his way. Perhaps more than one violation of the laws of hospitality has made them thus reserved to strangers; or perhaps the jealous customs of the neighbouring Turks have spread among the Morlacchi.

While there is any thing to eat in the houses of those villagers, the poor of the neighbourhood are welcome to partake of it; and hence it is, that no Morlack ever humbles himself to ask alms
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of a passenger ; at least, I never met with one example of it. I indeed, have often been forced to ask something from poor shepherds, but I always found them liberal ; and many times, in travelling through the fields in the heat of summer, I have met poor reapers, who, of their own accord, presented me with their flasks to drink, and offered me a part of their rustick provisions, with an affecting cordiality.

The Morlacchi, in general, have little notion of domestick œconomy, and readily consume in a week, as much as would be sufficient for several months, whenever any occasion of merriment presents itself. A marriage, the holiday of the Saint, protector of the family, the arrival of relations or friends, or any other joyful incident, consumes, of course, all that there is to eat and to drink in the house. Yet the Morlack is a great œconomist in the use of his wearing apparel ; for, rather than spoil his new cape, he takes it off, let it rain ever so hard, and goes bareheaded in the storm. In the same manner he treats his shoes, if the road is dirty, and they are not very old. Nothing but an absolute impossibility hinders a Morlack from being punctual ; and if he cannot repay the money he borrowed, at the appointed time, he carries a small present to his creditor, and requests a longer term. Thus it happens sometimes, that, from term to term, and present to present, he pays double what he owed, without reflecting on it.

Of their Friendships and Quarrels.

Friendship, that among us is so subject to change on the slightest motives, is lasting among the Morlacchi. They have even made it a kind of religious point, and tie the sacred bond at
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the foot of the altar. The Sclavonian ritual contains a particular benediction for the solemn union of two male or two female friends in the presence of the congregation. I was present at the union of two young women, who were made *Posestre*, in the church of *Perussich*. The satisfaction that sparkled in their eyes, when the ceremony was performed, gave a convincing proof, that delicacy of sentiments can lodge in minds not formed, or rather not corrupted by society, which we call civilized. The male friends thus united, are called *Pobratimi*, and the females *Posestre*, which mean half-brothers, and half-sisters. Friendships between those of different sexes, are not at this day bound with so much solemnity, though perhaps in more ancient and innocent ages it was also the custom.

From these consecrated friendships among the Morlacchi and other nations of the same origin, it should seem, that the *sworn brothers* arose a denomination frequent enough among our common people, and in many parts of Europe. The difference between these and the *Pobratimi* of Morlacchia, consists, not only in the want of the ritual ceremony, but in the design of the union itself. For, among the Morlacchi, the sole view is reciprocal service and advantage; but such a brotherhood among us, is generally commenced by bad men, to enable them the more to hurt and disturb society. The duties of the *Pobratimi* are, to assist each other in every case of need or danger, to revenge mutual wrongs, and such like. The enthusiasm is often carried so far as to risk, and even to lose their life for the *Pobratimi*, although these savage friends are not celebrated like a *Pilades*. If discord happens to arise between two friends, it is talked of over all the country as a scandalous novelty; and there have been some examples of it of late years, to the great affliction of the old Morlacchi, who attribute the depravation of their countrymen to their intercourse

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with

with the Italians. Wine and strong liquors, of which the nation is beginning to make daily abuse, after our example, will, of course, produce the same bad effects as among us.

But as the friendships of the Morlacchi are strong and sacred, so their quarrels are commonly unextinguishable. They pass from father to son, and the mothers fail not to put their children in mind of their duty, to revenge their father, if he has had the misfortune to be killed, and to shew them often the bloody shirt and arms of the dead. And so deeply is revenge rooted in the minds of this nation, that all the missionaries in the world would not be able to eradicate it. A Morlack is naturally inclined to do good to his fellow creatures, and is full of gratitude for the smallest benefit; but implacable if injured or insulted. With him, revenge and justice have exactly the same meaning, and truly it is the primitive idea; and I have been told, that in Albonia, the effects of revenge are still more atrocious and more lasting. There, a man of the mildest character, is capable of the most barbarous revenge, believing it his positive duty, and preferring the mad chimera of false honour, to the violation of the most sacred laws, and to the punishment to which he exposes himself, with premeditated resolution.

A Morlack, who has killed another of a powerful family, is commonly obliged to save himself by flight, and to keep out of the way for several years. If, during that time, he has been fortunate enough to escape the search of his pursuers, and has got a small sum of money, he endeavours to obtain pardon and peace; and, that he may treat about the conditions in person, he asks, and obtains a safe conduct, which is faithfully maintained though only verbally granted. Then, he finds mediators, and,

and, on an appointed day, the relations of the two hostile families are assembled, and the criminal is introduced, dragging himself along on his hands and feet, the musket, pistol or cutlass, with which he committed the murder, hung about his neck ; and while he continues in that humble posture, one or more of the relations recites a panegyrick on the dead, which sometimes rekindles the flames of revenge, and puts the poor prostrate in no small danger. It is the custom in some places for the offended party to threaten the criminal, holding all kind of arms to his throat, and, after much intreaty, to consent at least to accept of his ransom. These pacifications cost dear in Albonia, but the Morlacchi make up matters sometimes at a small expence ; and every where the business is concluded with a feast at the offender's charge.

Of the Talents and Arts of the MORLACCHI.

The natural vivacity and enterprizing spirit of the Morlacchi, qualify them to succeed in any kind of employment. In particular, they make excellent soldiers, and, towards the end of the last age, they performed very useful service, under the brave general *Delfino*, who conquered an important tract of country belonging to the Porte, chiefly by their means. They also become very expert in the direction of mercantile business ; and easily learn to read and write, even after they are grown up. It is said, that the Morlack shepherds, about the beginning of this age, were very fond of reading a large book of the christian doctrine, moral and historical, compiled by father *Divcovich*, and reprinted several times at Venice, in the Ceryllian Bosnian character, which is somewhat different from the Russian. It happened often, that the priest of the parish, more pious than learned,

ed, in his citations, mistook, or altered material circumstances, and then one of the audience would say aloud, *nie tako*, it is not so. It is added, that to prevent that scandal, great pains were taken to collect all those books, and in fact, very few of them are now found among the shepherds. This nation is also endowed with remarkable quickness of fancy, and are very ready, on any occasion, at giving pointed answers.

Notwithstanding their excellent disposition to learn every art, the Morlacchi have the most imperfect notions of husbandry, and are very unskillful in the management of their cattle, and in curing their diseases. They have a singular veneration for old customs, and little care has hitherto been taken either to remove their prejudices, or to teach them better methods. Their ploughs, and other rural utensils, seem to be of the most rude invention, and are as unlike ours, as the other fashions used in the days of *Triptolemus* would be to those of the present age. They make cheese, butter, and cream-cheese too, in their way; all which might pass well enough, if they were only done with more cleanliness. The taylor's art is confined to ancient and unalterable patterns, which are always cut from the same kind of cloth, so that any difference in the usual breadth would quite disconcert a Morlack taylor. They have some notion of dying, and their colours are not despicable. Their black is made of the bark of the ash-tree, called by them *Jassen*, laid in warm water for eight days, with some iron dross, which they gather from the blacksmiths forges; then they make use of this water, when cold, to give the colour. They also extract a fine blue colour from the infusion of wood, dried in the shade, in a lie of ashes well purified; they let this mixture boil several hours, and tinge the cloth in the water when cold. *Scodanus,*

danus, by them called *Rug*, gives yellow and brown; and they also obtain a yellow from the *Evonimus*, known there by the name of *Puzzolina*.

Almost all the Morlack women are skilful in works of embroidery and knitting. Their embroidery is curious, and exactly the same on both sides. They also make a sort of knit, or network, that our Italian women cannot imitate, and use it chiefly as a kind of buskin to their slippers and brogues, called *Nazuvka*. They do not want looms to weave their serge and other coarse cloth; but the women have not much time to apply to these things, their offices among the Morlacchi not admitting of sedentary labours.

In some of their villages, particularly at *Verlika*, they make earthen ware, very coarse indeed, but very durable.

Of the Superstition of the MORLACCHI.

The Morlacks, whether they happen to be of the Roman, or of the Greek church, have very singular ideas about religion; and the ignorance of their teachers daily augments this monstrous evil. They are as firmly persuaded of the reality of witches, fairies, enchantments, nocturnal apparitions and fortileges, as if they had seen a thousand examples of them. Nor do they make the least doubt about the existence of Vampires; and attribute to them, as in Transilvania, the sucking the blood of infants. Therefore when a man dies suspected of becoming a vampire, or *Vukodlak*, as they call it, they cut his hams, and prick his whole body with pins; pretending, that after this operation he cannot walk about. There are even instances of Morlacchi,

lacchi, who imagining that they may possibly thirst for children's blood after death, intreat their heirs, and sometimes oblige them to promise to treat them as vampires when they die.

The boldest Haiduc would fly trembling from the apparition of a spectre, ghost, phantom, or such like goblins as the heated imaginations of credulous and prepossessed people never fail to see. Nor are they ashamed, when ridiculed for this terror, but answer, much in the words of Pindar: "fear that proceeds from spirits, causes even the sons of the Gods to fly." The women, as may be naturally supposed, are a hundred times more timorous and visionary than the men; and some of them, by frequently hearing themselves called witches, actually believe they are so. The old witches are acquainted with many spells; and one of the most common is to transfer the milk of other people's cows to their own. But they can perform more curious feats than this; and I know a young man, who had his heart taken out by two witches, while he was fast a sleep, in order to be roasted and eat by them. The poor man did not perceive his loss, as may easily be imagined, till he awoke; but then he begun to complain, on feeling the place of his heart void; a begging friar, who lay in the same place, but was not asleep, beheld the whole anatomical operation of the witches, but could not hinder them, because they had charmed him. The charm however, lost its force, when the young man without the heart awoke; and both wanted to chastise the witches; but they, rubbing themselves with a certain ointment, flew away. The friar went to the hearth, took the heart, then well broiled, and gave it to the young man to eat; which he had no sooner done, than he was perfectly cured, as may reasonably be supposed. The good father told this story, and will tell it often, swearing to the truth of it; and

and the people dare not suspect that wine had made him see one thing for another, and that the two women, one of whom was not old, had flown away for quite another reason than for being witches. The enchantresses are called *Gestize*; and that the remedy may be at hand, there are others called *Babornize*, equally well skilled in undoing the spells; and to doubt of these two opposite powers, would be worse than infidelity.

A most perfect discord reigns in Morlacchia, as it generally does in other parts, between the Latin and Greek communion, which their respective priests fail not to foment, and tell a thousand little scandalous stories of each other. The churches of the Latins are poor, but not very dirty: those of the Greeks are equally poor, and shamefully ill kept. I have seen the curate of a Morlack village sitting on the ground in the churchyard, to hear the confession of women on their knees by his side; a strange posture indeed! but a proof of the innocent manners of those good people, who have the most profound veneration for their spiritual pastors, and a total dependance upon them, who on their part, frequently make use of a discipline rather military, and correct the bodies of their offending flock with the cudgel. Perhaps this particular is carried to an abuse as well as that of publick penance, which they pretend to inflict after the manner of the ancient church. They moreover, through the silly credulity of those poor mountaineers, draw illicit profits, by selling certain superstitious scrolls and other scandalous merchandize of that kind. They write in a capricious manner, on the scrolls called *Zapiz*, sacred names which ought not to be trifled with, and sometimes adding others very improperly joined. The virtues attributed to these *Zapiz* are much of the same nature as those which the Basilians attributed to their monstrously
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cut stones. The Morlacchi use to carry them sewed to their caps, to cure, or to prevent diseases; and they also tie them for the same purpose to the horns of their oxen. The composers of this trumpery take every method to maintain the credit of their profitable trade, in spite of its absurdity, and the frequent proofs of its inutility. And so great has their success been, that not only the Morlacchi, but even the Turks near the borders, provide themselves plentifully with Zapiz from the christian priests, which not a little increases their income, as well as the reputation of the commodity. The Morlacchi have also much devotion, and many of our ignorant people have little less, to certain copper and silver coins of the low empire; or to Venetian cotemporary pieces, which pass among them, for medals of St. Helen, and they think they cure the epilepsy and such like. They are equally fond of an Hungarian coin called *petizza*, which has the Virgin and Child on the reverse; and one of these is a most acceptable present to a Morlack.

The bordering Turks not only keep with devotion the superstitious *Zapiz*, but frequently bring presents, and cause masses to be celebrated, to the images of the Virgin; which is doubtless in contradiction to the Alcoran; yet when saluted, in the usual manner in that country, by the name of Jesus, they do not answer. Hence when the Morlacchi, or other travellers, meet them on the confines, they do not say *buaglian Iffus*, Jesus be praised; but *buaglian Bog*, God be praised.

Concerning the Manners of the MORLACCHI.

Innocence, and the natural liberty of pastoral ages, are still preserved among the Morlacchi, or at least, many traces of them remain

remain in the places farthest distant from our settlements. Pure cordiality of sentiment is not there restrained by other regards, and displays itself without any distinction of circumstances. A handsome young Morlack girl, who meets a man of her district, on the road, kisses him affectionately, without the least malice, or immodest thought; and I have seen all the women and girls, all the young men and old, kissing one another as they came into the church yard on a holiday; so that they looked as if they had been all belonging to one family. I have often observed the same thing on the road, and at the fairs in the maritime towns, where the Morlacchi came to sell their commodities. In times of feasting and merriment, besides the kiss, some other little liberties are taken with the hands, which we would not reckon decent, but are not minded among them; and when they are told of it, they answer, it is only toying and means nothing. From this toying however, their amours often take their beginning, and frequently end seriously when the two lovers are once agreed. For it very rarely happens, in places far distant from the coast, that a Morlacco carries off a girl against her will, or dishonours her; and were such attempts made, the young woman would, no doubt be able to defend herself; the women in that country being generally very little less robust than the men. But the custom is for the woman herself to appoint the time and place of being carried off; and she does so in order to extricate herself from other suitors, from whom she may have received some love token, such as a brass ring, a little knife, or such like trifles. The Morlack women keep themselves somewhat neat till they get a husband, but after marriage they abandon themselves totally to a loathsome dirtiness, as if they intended to justify the contempt with which they are treated. Indeed it cannot be said that even the young women have a grateful odour, as they are

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used to anoint their hair with butter, which soon becoming rancid, exhales no agreeable effluvia.

Of the MORLACK Women's Dress.

The dress of the Morlack women, is different in different parts of the country, but it appears every where strange to an Italian. That of the unmarried women is the most complex and whimsical, in respect to the ornaments of the head; for when married they are not allowed to wear any thing else but a handkerchief, either white or coloured, tied about it. The girls use a scarlet cap, to which they commonly hang a veil falling down on the shoulders, as a mark of their virginity. The better sort adorn their caps with strings of silver coins, among which are frequently seen very ancient and valuable ones; they have moreover earrings of very curious work, and small silver chains with the figures of half moons fastened to the ends of them. But the poor are forced to content themselves with plain caps, or if they have any ornaments, they consist only of small exotic shells, round glass beads, or bits of tin. The principal merit of these caps, which constitute the good taste, as well as vanity of the Morlack young ladies, is to attract and fix the eyes of all who are near them, by the multitude of ornaments, and the noise they make on the least motion of their heads. Hence half moons of silver, or of tin, little chains and hearts, false stones and shells, together with all kinds of splendid trumpery, are readily admitted into their head dress. In some districts, they fix tufts of various coloured feathers, resembling two horns on their caps; in others, tremulous plumes of glass; and in others, artificial flowers, which they purchase in the sea port towns; and it must be confessed, that in the variety of those capricious and barbarous ornaments,

ornaments, sometimes a fancy not inelegant is displayed. Their holiday shifts are embroidered with red silk, and sometimes with gold, which they work themselves, while they attend their flocks; and it is surprising to see how nicely this work is executed. Both old and young women wear about their necks large strings of round glass beads of various size and colour; and many rings of brass, tin, or silver on their fingers. Their bracelets are of leather covered with wrought tin, or silver; and they embroider their stomachers, or adorn them with beads or shells. But the use of stays is unknown, nor do they put whalebone or iron in the stomacher. A broad woolen girdle surrounds their petticoat, which is commonly decked with shells and of blue colour, and therefore called *Modrina*. Their gown, as well as petticoat, is of a kind of serge; and both reach near to the ankle; the gown is bordered with scarlet and called *Sadak*. They use no *modrina* in summer, and only wear the *Sadak* without sleeves over a linen petticoat or shift. The girls always wear red stockings, and their shoes are like those of the men, called *opanke*. The sole is of undressed ox hide, and the upper part of sheep's skin thongs knotted, which they call *apute*, and these they fasten above the ankles, something like the ancient *co-turnus*.

The unmarried women, even of the richest families, are not permitted to wear any other sort of shoes; though after marriage they may, if they will, lay aside the *opanke*, and use Turkish slippers. The girls keep their hair treffed under their caps, but when married they let it fall dishevelled on the breast; sometimes they tie it under the chin; and always have medals, beads, or bored coins, in the Tarrar or American mode, twisted amongst it. An unmarried woman who falls under the imputation of
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want of chastity, runs the risk of having her red cap torn off her head publickly in church by the curate, and her hair cut by some relation, in token of infamy. Hence, if any of them happen to have fallen into an illicit amour, they, commonly, of their own accord, lay aside the badge of virginity, and remove into another part of the country.

Of their Marriages, Pregnancy, and Childbirth.

Nothing is more common among the Morlacchi than marriages concluded between the old people of the respective families, especially when the parties live at a great distance, and neither see nor know each other; and the ordinary motive of these alliances is, the ambition of being related to a numerous and powerful family, famous for having produced valiant men. The father of the future bridegroom, or some other near relation of mature age, goes to ask the young woman, or rather a young woman of such a family, not having, commonly, any determinate choice. Upon this, all the girls of the house are shewn to him, and he chuses which pleases him best, though generally respecting the right of seniority. A denial in such cases is very rare, nor does the father of the maid enquire much into the circumstances of the family that asks her. Sometimes a daughter of the master is given in marriage to the servant, or tenant, as was usual in patriarchal times; so little are the women regarded in this country. On these occasions, however, the Morlacchi girls enjoy a privilege which ours would also wish to have, as in justice they certainly ought. For he who acts by proxy, having obtained his suit, is obliged to go and bring the bridegroom; and if, on seeing each other, the young people are reciprocally content, the marriage is concluded, but not otherwise. In some parts, it is
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the custom for the bride to go to see the house and family of the proposed husband, before she gives a definitive answer; and, if the place or persons are disagreeable to her, she is at liberty to annul the contract. But, if she is contented, she returns to her father's house, escorted by the bridegroom and nearest relations. There the marriage day is appointed; on which the bridegroom comes to the bride's house, attended by all his friends of greatest note, who, on this occasion, are called *Svati*, and are all armed, and on horseback, in their holiday cloaths, with a peacock's feather in their cap, which is the distinctive ornament used by those who are invited to weddings. The company goes armed, to repulse any attack, or ambush, that might be intended to disturb the feast. For, in old times, these encounters were not unfrequent, according to the records of many national heroic songs. In one of these is told the story of *Janco Vojvod* of *Sebigne*, who was cotemporary with the famous *George Castriotich*, named *Scanderbeg*, and betrothed to *Jagna* of *Temeswar*, whose brothers, being not his friends, when he came to conclude the marriage, engaged him in the punctilio of performing certain feats, upon condition, that, if he succeeded, he was to have the bride, and, if not, he was to lose his life. These were, as the song relates; that, he was to pierce an apple stuck on the point of a spear, with his dart, at a certain distance; then he was to spring over nine horses, placed one beside another, at one leap; and, lastly, to discover his future spouse, among nine young women, all covered with veils. *Janco*, it seems, was a valiant soldier, but not expert in such trials of skill; however, his nephew undertook them in his place, and no objection was made, as they say, is the custom in a certain island, to hire one to fight for another at a boxing match. The expedient made use of by *Zeculo*, *Janco's* nephew, to know the

the bride among the other nine young women, was singular, and merits a prolongation of my digression. He spread his mantle on the ground, threw a handful of gold rings on it, and then gallantly addressed the Ladies as follows ; “ Lovely maid, “ who art destined to be *Janco's* wife, do thou pick up these “ golden rings, and wear them ; but if any other dares to touch “ one of them, I will cut off her arm at a blow.” The nine young women were very naturally afraid of the danger, and did not chuse to advance, so *Janco's* bride collected the rings, and thus the nuptial games were finished. When, upon trials of this nature, one of the parties found himself excluded, and another preferred, as he thought, unjustly, he commonly had recourse to arms for redress ; and much blood was often shed in those combats ; and many tombs of the ancient Slavi, are still to be seen in the woods, and desert places of *Morlacchia*, whereon these feuds are engraved in coarse bas-relief.*

The bride is conducted to a church, veiled, and surrounded by the *Svati* on horseback, and the sacred ceremony is performed amidst the noise of muskets, pistols, barbaric shouts, and acclamations, which continue till she returns to her father's house, or to that of her husband, if not far off. Each of the *Svati* has his particular inspection, as well during the cavalcade, as at the marriage feast, which begins immediately on their return from church. The *Parvinaz* precedes all the rest, singing such songs,

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* Some of these tombs are to be seen, particularly in the wood between *Gliubuski* and *Vergoraz*, on the banks of the *Trebesat* ; and along the military way, that leads from *Salona* to *Narona*. At *Levrech*, *Cista*, *Mramor*, and between *Soign* and *Imoski*, there are many. There is one isolated at *Dervenich*, in *Primoji*, called *Costagnichia-Greb* ; and another at *Zakucaz*, which, they say, was erected on the spot where the combat happened.

as he thinks suitable to the occasion. The *Bariačtar* brandishes a lance with a filken banner fastened to it, and an apple stuck on the point; there are two *Bariačtars*, and sometimes four, at the more noble marriages. The *Stari-fuat* is the principle personage of the brigade, and the most respectable relation is commonly invested with this dignity. The *Stacheo's* duty is to receive and obey the orders of the *Stari-fuat*. The two *Diveri*, who ought to be the bridegroom's brothers, when he has any, are appointed to serve the bride. The *Knum* corresponds to our sponsors; and the *Komorgia*, or *Seksana* is deputed to receive, and guard the dowery. A *Ciaous* carries the mace, and attends to the order of the march, as master of the ceremonies; he goes singing aloud, *Breberi*, *Davori*, *Dobra-frichia*, *Jara*, *Pico*, names of ancient propitious deities. *Buklia* is the cup-bearer of the company, as well on the march, as at table; and all these offices are doubled, and sometimes tripled, in proportion to the number of the company.

The first day's entertainment is sometimes made at the bride's house, but generally at the bridegroom's, whether the *Svati* hasten immediately after the nuptial benediction; and at the same time, three or four men run on foot to tell the good news; the first who gets to the house has a kind of towel, embroidered at the ends, as a premium. The *Domackin*, or head of the house, comes out to meet his daughter in law, and a child is handed to her, before she alights, to caress it; and, if there happens to be none in the house, the child is borrowed from one of the neighbours. When she alights, she kneels down, and kisses the threshold. Then the mother in law, or, in her place, some other female relation, presents a corn sieve, full of different kinds of grain, nuts, almonds, and other small fruit,

fruit, which the bride scatters upon the *Svati*, by handfuls, behind her back. The bride does not sit at the great table, the first day, but has one apart for herself, the two *Diveri* and the *Stacheo*. The bridegroom sits at table with the *Svati*, but in all that day, consecrated to the matrimonial union, he must neither unloose, nor cut any thing whatever. The *Knum* carves his meat, and cuts his bread. It is the *Domachin*'s business to give the toasts; and the *Stari-svat* is the first who pledges him. Generally the *Bukkara*, a very large wooden cup, goes round, first to the Saint Protector of the family; next to the prosperity of the holy faith; and, sometimes, to a name, the most sublime, and venerable. The most extravagant abundance reigns at these feasts, and each of the *Svati* contributes, by sending a share of provisions. The dinner begins with fruit, and cheese, and the soup comes last, just contrary to our custom. All sorts of domestick fowls, kid, lamb, and sometimes venison, are heaped in prodigal quantities upon their tables; but very rarely a Morlacco eats veal, and perhaps never, unless he has been persuaded to do it out of his own country. This abhorrence to calves flesh is very ancient among the Morlacchi. St. Jerome, against Jovinian,* takes notice of it: and *Tomeo Marinovich*, a Bosnian writer, who lived in the beginning of the last age, says, that the Dalmatians, uncorrupted by the vices of strangers, abstained from eating calves flesh, as an unclean food, even to his days.† The women relations, if they are invited, never dine at table with the men, it being an established custom

* At in nostra Provincia scelus putant vitulos devorare. D. Hier. contra Jovin.

† Ad hanc diem Dalmatæ, quos peregrina vitia non infecere, ab esu vitulorum non secus ac ab immunda esca abhorrent. Jo. Tom. Marn. in op. ined. de Illyrica, Cæsaribusque Illyricis.

custom for them to dine by themselves. After dinner, they pass the rest of the day in dancing, singing ancient songs, and in games of dexterity, or of wit, and fancy; and in the evening, at a convenient hour after supper, the three ritual healths having first gone round, the *Knum* accompanies the bridegroom to the matrimonial apartment, which commonly is the cellar, or the stable, whither the bride is also conducted by the *Diveri*, and the *Stacheo*; but the three last are obliged to retire, and the *Knum* remains alone with the new married couple. If there happens to be any bed prepared better than straw, he leads them to it, and having untied the bride's girdle, he causes them both to undress each other reciprocally. It is not long since the *Knum* was obliged to undress the bride entirely, but that custom is now out of use; and, instead of it, he has the privilege of kissing her as often as he pleases, wherever he meets her; which privilege may possibly be agreeable for the first months, but must soon become very disgusting. When they are both undressed, the *Knum* retires, and stands listening at the door, if there be a door. It is his business to announce the consummation of the marriage, which he does, by discharging a pistol, and is answered by many of the company. The next day, the bride, without her veil, and virginal cap, dines at table with the *Svati*, and is forced to hear the coarse equivocal jests of her indelicate, and sometimes intoxicated company.

These nuptial feasts, called *Sdrave* by the ancient Huns, are by our Morlacchi called *Sdravize*, from whence our Italian word *Stravizzo* is undoubtedly derived. They continue three, six, eight or more days, according to the ability or prodigal disposition of the family where they are held. The new married wife gets no inconsiderable profit in these days of joy. And it usually

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amounts to much more than all the portion she brings with her which often consists of nothing but her own cloaths, and perhaps a cow ; nay, it happens, sometimes, that the parents, instead of giving money with their daughter, get something from the bridegroom by way of price. The bride carries water every morning, to wash the hands of her guests, as long as the feasting lasts ; and each of them throws a small piece of money into the basin, after performing that function, which is a very rare one among them, excepting on such occasions. The brides are also permitted to raise other little contributions among the Svati, by hiding their shoes, caps, knives, or some other necessary part of their equipage, which they are obliged to ransom by a piece of money, according as the company rates it. And, besides all these voluntary, or extorted contributions already mentioned, each guest must give some present to the new married wife, at taking leave the last day of the *Sdravize*, and then she also distributes some trifles in return, which commonly consists in shirts, caps, handkerchiefs, and such like.

The nuptial rites are almost precisely the same through all the vast country inhabited by the Morlacchi ; and those in use among the peasants, and common people of the sea coast of Dalmatia, Istria, and the islands, differ but little from them. Yet among these particular varieties, there is one of the island *Zlarine*, near *Sebenico*, remarkable enough ; for there, the *Stari-svat* (who may naturally be supposed drunk at that hour) must, at one blow, with his naked broad sword, strike the bride's crown of flowers off her head, when she is ready to go to bed. And in the island of *Pago*, in the village of *Novoglia*, (probably the *Gissa* of ancient Geographers) there is a custom more comical, and less dangerous, but equally savage and brutal. After the marriage

marriage contract is settled, and the bridegroom comes to conduct his bride to church ; her father, or mother, in delivering her over to him, makes an exaggerated enumeration of her ill qualities ; “ Know, since thou wilt have her, that she is good for “ nothing, ill natured, obstinate, &c.” On which the bridegroom, affecting an angry look, turns to the young woman, with an “ Ah ! since it is so, I will teach you to behave better ;” and at the same time regales her with a blow, or a kick, or some piece of simular gallantry, which is by no means figurative. And it seems in general, that the Morlack women, and perhaps the greatest part of the Dalmatians, the inhabitants of the cities excepted, do not dislike a beating, either from their husbands, or lovers.

In the neighbourhood of *Dernish*, the women are obliged, during the first year after marriage, to kiss all their national acquaintances who come to the house, but after the first year, they are dispensed from that compliment, and, indeed, they become so intolerably nasty, that they are no longer fit to practise it. Perhaps the mortifying manner in which they are treated by their husbands, and relations, is, at the same time, both the cause and effect of this shameful neglect of their persons. When a Morlack husband mentions his wife, he always premises, by your leave, or begging your pardon. And when the husband has a bedstead, the wife must sleep on the floor near it. I have often lodged in Morlack houses, and observed, that the female sex is universally treated with contempt ; it is true, that the women are by no means amiable in that country ; they even deform, and spoil the gifts of nature.

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The pregnancy and births of those women, would be thought very extraordinary among us, where the ladies suffer so much, notwithstanding all the care, and circumspection used before and after labour. On the contrary, a Morlack woman neither changes her food, nor interrupts her daily fatigue, on account of her pregnancy; and is frequently delivered in the fields, or on the road, by herself; and takes the infant, washes it in the first water she finds, carries it home and returns the day after to her usual labour, or to feed her flock. The custom of the nation is invariable in washing the new-born infants in cold water; and the Morlacchi may justly say of themselves what the ancient inhabitants of Italy did :

*Durum a stirpe genus natos ad flumina primum
Deferimus, sævoque gelu duramus, et undis.*

And it is certain that the cold bath produces not such bad effects on infants, as *Machard* pretends;* who condemns the present custom of the Scotch and Irish, as prejudicial to the nerves, and derives the immersions of the ancient Germans from superstition and ignorance.

The little creatures, thus carelessly treated in their tenderest moments, are afterwards wrapt in miserable rags, where they remain three or four months, under the same ungentle management; and when that term is elapsed, they are set at liberty, and left to crawl about the cottage, and before the door, till they learn to walk upright by themselves; and at the same time acquire that singular degree of strength, and health with which the Morlacchi are endowed, and are able, without the
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* *Memoires de la Soc. Oecon. de Berne, an. 1764, iii partie.*

least inconvenience, to expose their naked breasts to the severest frost and snow. The infants are allowed to suck their mother's milk while she has any, or till she is with child again, and if that should not happen for three, four, or six years, they continue all that time to receive nourishment from the breast. The prodigious length of the breasts of the Morlacchian women is somewhat extraordinary; for it is very certain, that they can give the teat to their children over their shoulders, or under their arms. They let the boys run about, without breeches, in a shirt that reaches only to the knee, till the age of thirteen or fourteen, following the custom of *Bosfina*, subject to the Porte, where no *Haraz*, or capitation tax is paid for the boys till they wear breeches, they being considered before that time as children; not capable of labouring, or of earning their bread. On the occasion of births, and especially of the first, all the relations, and friends, send presents of eatables to the woman in childbed, or rather, to the woman delivered; and the family makes a supper of all those presents together. The women do not enter the church till forty days after child birth.

The Morlacchi pass their youth in the woods, attending their flocks and herds, and in that life of quiet, and leisure, they often become dexterous in carving with a simple knife; they make wooden cups, and whistles adorned with fanciful bassi-reliefs, which are not void of merit, and at least shew the genius of the people.

Of the Food of the MORLACCHI.

Milk coagulated in various ways, is the ordinary nourishment of the Morlacchi; they sometimes give it an agreeable acid by the infusion of vinegar, whereby the curd becomes extremely
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refreshing; and the whey is their favourite common drink, nor is it at all unpleasant to a stranger's taste. When a guest arrives unexpectedly, their readiest and best dish, is new cheese fried with butter. They are not much accustomed to bread baked after our manner, but they make cakes of millet, barley, Indian corn, and sometimes of wheat, which they bake, or toast on the hearth every day, for present use; but wheaten bread is hardly ever seen in the cottages of the poor. They make a large provision of our cabbages, like those used in Germany; and roots, and all kinds of esculent herbs, which they find in the woods, or in the fields, serve them for a cheap and salutary diet. But garlick, and shalots are the food most universally pleasing to that people, next to roast meat, which is their most luxurious dish. I remember to have read somewhere, that *Stilpo*, being reproved for going to the temple of Ceres, after having eaten garlick, which was forbid, answered; "give me something better, and I will leave it off." But the Morlacchi would not accept even of that condition; and if they did so, it is more than probable they would repent it: for it is reasonable to think, that the constant use of these plants, corrects in part, the bad quality of their water, and contributes to keep them long healthy, and robust. Nothing is more common in that country, than to see very old men, strong, active and lively to an extraordinary degree; and I am inclined to think that this is partly owing to the garlick, and their regular vegetable diet. Yet, notwithstanding the large quantity of onions, garlick, and shalots which the Marlacchi consume, it is wonderful to observe, that in their own vast, and rich fields, not one of these articles is produced; and thus they find themselves obliged, year after year, to give away no inconsiderable sum to the people of Ancona, and Rimini, which might so easily be saved. It would certainly be a salutary violence, or rather

rather an act of paternal charity, to force them to cultivate those products, without which they cannot live, and which require so small a degree of industry. It would perhaps be looked upon with derision, if on this occasion, premiums were offered them to serve themselves; and yet, that is doubtless the best, and easiest way of improving agriculture.

A late governor-general of Dalmatia introduced and encouraged the cultivation of hemp in Morlacchia, and it succeeded well; but the publick encouragement not continuing, industry also decayed, and now only a small voluntary cultivation goes on, which nevertheless somewhat diminishes the sum required to purchase foreign linen, and maintains a few looms in the country.

Many a *Macrobius* is to be found in Morlachia, especially on the brows of hills, where the purity of the air joined to frugality, and a laborious life, lengthens out old age without infirmity. Yet I did not find, nor indeed enquire after a *Dandon*; * though I thought I saw more than one old man who might be compared to the old English Parr; but the Morlacchi are so carelessly ignorant, that they can give no account of their own age, long before they come to that period of their existence.

Of the Utensils, Cottages, Cloaths, and Arms of the MORLACCHI.

A Morlack in easy circumstances has no other bed than a coarse blanket made of goats hair, and of Turkish manufacture; very few of the richest people in the country have such a piece of luxurious furniture as a bed after our fashion; and there are not many who have so much as a bedstead; which however, when they happen to get made in their rough manner,

* Alex. Cornelius memorat Dandonem Illyricum D. annos vixisse Plin. l. 7. c. 48.

ner, they sleep in, between two goat hair blankets, without sheets, or any other bedding. The greatest part of the inhabitants, content themselves with the bare ground, wrapt in the usual blanket, and only sometimes a little straw under it. But in summer they chuse to sleep in the open air, perhaps to be delivered from the domestick insects. Their household furniture consists of few, and simple articles, such as shepherds, and peasants, little advanced in arts, require. Their houses are not often covered with tiles, or slates; and when they have any beams intended to support a second floor, the family's wardrobe is placed on them, and may be imagined well provided where there is so much magnificence; yet the ladies sleep on the floor, even in such noble houses. I have been lodged in one of them, where several of these women were grinding corn till past midnight, screaming certain diabolical songs, in the same place where I was laid to sleep, and where ten others were stretched on the ground, and actually fast asleep, notwithstanding their frightful vociferation. The Morlacchi, who have little or no correspondence with the sea towns, and are at a great distance from them, have seldom any other houses but cottages covered with straw, or *zimble*; so they call a kind of laths, used instead of tiles. The animals inhabit the same cottage, divided from the masters, by a slight partition made of twigs, and plaistered with clay, and the dung of cattle; the walls of the cottage are either of the same materials, or of large stones laid one upon another, without cement.

The fire place stands in the middle of the cottage, and the smoke finds its way out at the door, there being rarely any other aperture. Hence every thing within these wretched habitations is varnished with black, and loathsome with smoke; not excepting the milk, which forms a great part of their sustenance,

nance, and of which they are very liberal to strangers. Their cloaths, persons, and every thing, in short, contract the same smokey smell. The whole family sits round this fire place, in the cold season; and, when they have supped, lay themselves down to sleep in the same place where they sat at supper; for, in every cottage, they have not even benches to sit, and to lie upon. They burn butter instead of oil, in their lamps; but for the most part they use pieces of cleft fir, in lieu of candles, the smoke of which sometimes tinges their mustaches curiously. A very few rich Morlacchi have houses in the Turkish fashion, with stools, and some few of our moveables; but in general, the richest of them live but a savage kind of life. Although they have no idea of cleanliness in their habitations, yet, in one respect, they are nicer than we are; nor do they fail to reproach us on that account, and call us barbarous, and beastly; and it is a real fact, that no man, nor woman of that nation, let the disorder be ever so severe, or painful, was ever known to ease nature within the cottage; even dying persons are carried out to perform that operation in the open air; and if a stranger should, through ignorance, or contempt, pollute their house in that manner, he would scarcely escape with his life, and certainly not without very ill treatment.

A Morlacco cloaths himself with great plainness, and œconomy. The *Opanke* serve for shoes, both to men and women, and under them they wear a kind of short woollen stocking, called *Navlakaza*, which reaches above the ankle, and joins to the breeches, whereby all the leg is covered. The breeches are of coarse white serge, and they draw them tight about their waist, like a purse, by means of a woollen string. Their shirt is very short, and over it they wear a short doublet, which they call *Jacerma*, and in winter they add a kind of short cloak, made

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of very coarse red cloth, and call it *Kabaniza*, or *Japungia*. On their head they wear a red cloth cap, and above it, a sort of cylindrical turban called *Kalpak*. They shave their heads, leaving only a small tuft behind, like the Poles and Tartars. They bind their loins with a strong reticular fillet of woollen yarn, and sometimes of silk: and in this fillet, or bandage, and their breeches, they carry all their necessary implements; such as, one or two pistols stuck in behind, and before, a very large knife, which they call *Hanzar*, with the handle of brass, set round with false stones. This knife is often made fast to a light brass chain rolled about the bandage; and near it is placed a horn, with grease for their arms, or for themselves. Next follows a little bag with their tinder box, and money, if they have any; and then their tobacco in a dried bladder. The tobacco pipe is placed behind, the reed stuck in below their shirt, and the bowl appears without. No Morlacco ever goes out of doors without his gun upon his shoulder.

The chiefs of the nation, however, are better dressed; and their good taste in cloaths may be seen by plate IV. which represents my good landlord of *Coccorich*.

Of their Musick and Poetry, Dances and Diversions.

The Morlacchi have their rustick assemblies, especially in houses where there are several young women; and in these the memory of ancient national stories is perpetuated. A musician always attends these meetings, and sings the old *pisme* or songs, accompanying them with an instrument called *guzla*, which has but one string, composed of many horse hairs. The tune, to which these heroic songs are sung, is extremely mournful, and monotonous, besides, they bring the sound a little through the nose, which agrees perfectly well with their instrument; the
verses

verses of the most ancient traditional songs are of ten syllables, not rhimed. Their poetry does not want strength of expression, but the smallest ray of imagination rarely appears in it, and the little that is attempted is seldom happy. Yet those songs have a great effect on the minds of the hearers, who are at pains to get them by heart; and I have seen some of them sigh, and weep at a passage, which did not appear to me the least moving. Perhaps the force of the Illyric words, better understood by the Morlacchi, might produce this effect; and perhaps, as seems to me more probable, their artless minds, little stored with ideas, might more readily be affected with any turn of expression that appeared to them extraordinary. That kind of simplicity, and want of order, which are frequently seen in the ancient Provençal Romancers, form, in general, the principal character of the Morlacchian poetry. Yet they have some pieces not deficient in point of order; only, whoever reads, or hears them, must be contented to supply the want of detail, and precision, which the Morlacchi neglect, and which are carefully attended to by the civilized nations of Europe, in all compositions, whether in prose, or verse. I could find none of their songs of well authenticated date, before the fourteenth century; and I fear the reason is analogous to that, by which we lost so many Greek and Latin books, in the times of religious barbarism. I suspect, nevertheless, that something more ancient might be found, further within the country, among the *Merediti*, and the inhabitants of the Clementine mountains, who lead a pastoral life, separated entirely from the commerce of other nations. But, who can flatter himself to be able to penetrate with safety among those unfociable, and savage tribes? I confess, I should like such a journey, and want not courage to attempt it; not only with the view of discovering ancient pieces of poetry, but to be-

come

become acquainted with the natural history of those countries, hitherto undescribed and unknown; and also with a view to discover some rare Greek, or Roman antiquities: but too many things are wanting to put such a project in execution.

I have translated several heroic songs of the Morlacchi, and some of them appear to me both well conducted and interesting; but I very readily allow, that they cannot be put in competition with the poems of the celebrated Scotch bard, which we have lately had the pleasure of seeing translated into our language, with true poetical spirit, by the *Abbé Cesarotti*, and republished in a more complete form, through the generous bounty of a noble countryman of the bard, who patronizes learning in all parts of Europe. Yet the Morlack poetry is not destitute of merit; and has, at least, the simplicity of Homer's times, and serves to illustrate the manners of the nation. The Illyrian language is also well adapted to poetry, and musick; being harmonious, and abounding with vowels; and yet it is almost totally abandoned, even by the civilized nations who speak it. Ovid, when he lived among the *Slavi* on the Black Sea, condescended to exercise his poetical talent, by writing verses in their language, and gained applause from those savages; but his Roman pride returning, he was ashamed of having profaned the Latin harmony.* The city of *Ragusi* has produced many elegant poets, and some poetesses in the Illyrian tongue; and among them *Giovanni Gondola* is much celebrated;

nor

* Ah! pudet, et Getico scripsi sermone libellum,
Structaque sunt nostris barbara verba modis.
Et placui (gratare mihi) cæpique Poetæ
Inter humanos nomen habere Getas,

De Pont. iv. Ep. 13.

nor were the other cities, and islands of Dalmatia without their poets; but the many Italianisms now introduced into their dialects have corrupted the ancient simplicity of the language. Even the dialect of the Morlacchi is become equally barbarous, and full of foreign words, and phrases, as I am informed by those who have a perfect knowledge of the language, and particularly by *Matteo Sovich*, archdeacon of *Offero*, the most learned man of that country. Yet, I confess, that the Bosnian dialect, spoken by the inland Morlacchi, is more harmonious, in my opinion, than the littoral Illyrian; but I hope not to incur the displeasure of the maritime Dalmatians by this declaration, as I do not pretend to be a competent judge of the matter.—Let us, if you please, return to the songs.

A Morlacco travels along the desert mountains singing, especially in the night time, the actions of ancient *Slavi* Kings, and barons, or some tragic event; and if another happens to be travelling on a neighbouring mountain, he repeats the same verse, when the other has sung it, and this alternation continues, as long as they can hear each other. A loud, and long howl, which is an *oh!* barbarously modulated, constantly precedes the verse, the words of which are pronounced rapidly, almost without any modulation, which is all reserved for the last syllable, and ends with another long howl, by way of trill, raised louder and louder, while the breath lasts.

Although the Morlacchi usually sing their ancient songs, yet other poetry is not altogether extinguished among them; and their musicians, after singing an ancient piece, accompanied with the *guzla*, sometimes finish it with some extempore verses, in praise of the personage by whom they are employed; and
some

some of them are capable of fingering extempore during the whole entertainment ; always accompanying the voice with the *guzla*. There is also some written poetry among them, when the memory of a signal event happens to be preserved in that manner. The whistle, or flagelet, and a kind of pastoral bag-pipe, are the common musical instruments among the Morlacchi. These traditional songs contribute much to maintain the ancient customs ; hence, their rites, games, and dances are derived from very remote originals.

Their games and diversions almost all consist in trials of strength, or agility ; such as, leaping, running, or flinging a large heavy stone. They dance to the sound of the bag-pipe, and the voices of their singers, a favourite dance, which they call *kolo*, or circle, which soon turns into *skocci-gosi*, that is, high dancing. All the dancers, men, and women, taking hold of each other's hands, form a circle, and turn slowly round, to the harsh notes of the instrument. Then the circle changes its form, sometimes into an elipsis, and sometimes a square, according as the dance becomes more animated ; and, at last, transforms itself into the most violent springs and leaps, in which the women also join, and the whole becomes wild confusion. The Morlacchi have an incredible transport for this rude dance, for neither the fatigues of the day, nor a long journey, nor hunger itself can detain them from it, or from continuing several hours, with very little intermission, in such a violent exercise.

On the medical Art among the MORLACCHI.

It happens frequently enough, that inflammatory fevers are the immediate consequences of these violent dances just mentioned ;

tioned; in which case, and in all others of the like nature, the Morlacchi do not apply to the physician, because, happily for them, there is none of that profession among them, but cure themselves, after their own way. A large draught of a spirituous liquor, which they call *rakia*, is commonly their first medicinal potion; and if that does not effectuate the cure, they repeat the dose, together with a large infusion of pepper, or gun powder. After this, they cover themselves up, in winter; or lie down in the hottest rays of the sun, if in summer, *to sweat the illness*, as they express it. Their cure for agues, is more methodical; the first and second day, they take a glass of wine, in which as much pepper as they can take up between their finger and thumb, has been infused for several hours; and the third and fourth day, the doze is doubled; and I have actually seen more than one Morlacco perfectly cured by this strange febrifuge. Their remedy for obstructions is to lay a large flat stone on the sick person's belly; and for rheumatisms, they use a most violent friction, which, at least, renders the patient's back quite livid, and sometimes strips off the skin. Sometimes, they apply a red hot stone, wrapt in wet rags, for rheumatic pains; and they use to drink a great quantity of vinegar, to recover their appetite, after a long series of fevers. But the last remedy of all, which is taken only in desperate cases, is sugar, when they can find any; and they put it into the mouths of dying persons, to make them pass into the other world with less bitterness. *Criptamus* and *Chamæphitis* are used for articular pains, and they frequently apply horse leeches to the swelled, or aching parts. They apply a red ochrous earth, frequently found in the fields, as the best remedy for excoriations, or wounds; and the same use is made of it in some parts of Bohemia, and Misnia, where

where that earth abounds.* *Grifelius*, who takes notice of this practice, had tried the experiment often with success upon himself; as I have also done in Dalmatia. The Morlacchi are very dexterous in setting dislocated, or broken bones, without having studied osteology like our surgeons, who, notwithstanding, lame us frequently, by the rules of art. They perform phlebotomy with an instrument like that used for horses, and yet there is no example of any bad accident happening by that coarse operation.

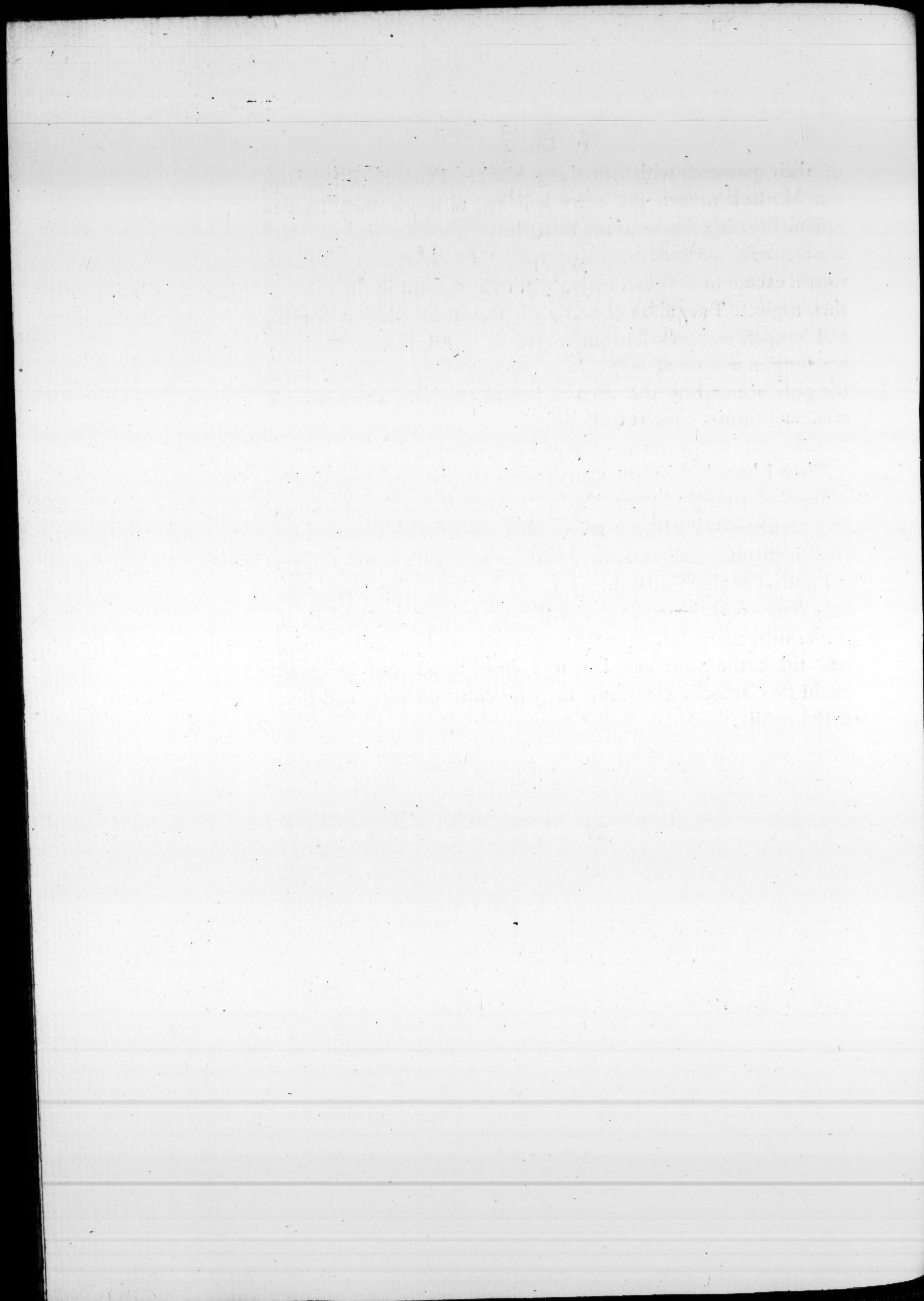
Funerals of the MORLACCHI.

The family weeps and howls over the dead, while they lie in the house, and when they are carried out to be buried, much in the same manner as with us. But the Morlacchi have several customs peculiar to themselves, on these occasions; such as, whispering in the ear of the dead person, and giving express commissions for the other world. After this ceremony is finished, the body is covered with a white cloath, and carried to church, where the lamentations begin anew, and the praises of the deceased are sung, by the relations, or others appointed for that purpose, weeping. After the corpse is buried, the whole company, together with the curate, returns to the house, where there is a strange mixture of feasting, and lamentation. The men let their beards grow a long time, in sign of mourning; a custom derived from the Jews, as is that of unleavened bread, purifications, and several others. Violet or blue coloured caps are also the mark of mourning. The women wear black or blue handkerchiefs, and cover all the red
of

* Suppl. Aët. Nat. Curios. Dec. 1: an. 2. Obs. 78.

of their garments with something black. During the first year, the Morlack women go, every holiday, to renew their lamentation, strowing flowers, and sweet herbs upon the grave. And if necessarily detained from that visit, they, next time, make a formal excuse to the dead, giving a minute account of the cause of their neglect. They also frequently ask news about the other world, and propose many curious interrogations. All these ceremonies are sung in a kind of verse, in a doleful tone; and sometimes the girls accompany the women, in order to learn these funeral arts, and form a concert truly dismal.

Thus I have laid before your Excellency the most remarkable customs of a people hitherto little known to the different nations of Europe.----I will not affirm, that the account I have given of their manners and customs agrees exactly with every village, and district of the Morlacchi; yet, as I have travelled over a very large tract of their country, and through distant parts of it, I can venture to affirm, that the differences are but small; and I shall think the pains and labour I have taken well bestowed should this account contribute to your entertainment, and that of the public.



TO THE
 CAV. ANTONIO VALLISNIERI,
 PROFESSOR OF NATURAL HISTORY,
 IN THE
 UNIVERSITY OF PADUA.

Of the Course of the River KERKA, the TITIUS of the Ancients.

THE necessity of travelling at random through a vast kingdom, where every part of natural history is still unknown, has, as you will easily imagine, made me lose much time and labour. The want of persons capable of furnishing any useful intelligence, is the greatest inconvenience that I have met with; not that the maritime towns of Dalmatia are destitute of men of talents, and learning, but the study of natural history is not yet introduced among them, and therefore they are of little use to the curious in that branch of science. Hence it is, that not having a convenient number of fixed points to which I could direct my journies, I have been obliged to trace out the line myself, or to follow those already marked by nature, sometimes along the windings of the shore, and sometimes following the course of the rivers within land.

of

Of the true Sources of the River KERKA.

One of the rivers which I have followed with the greatest attention, is the *Titius* of the ancients, now called Kerka or Karka, by the people of the country; it was, in Roman times, the boundary between Liburnia and Dalmatia. The sources of this river are marked in all the maps, much farther up than they really are; and even the most accurate chorographers of Dalmatia have confounded with the channel of the Kerka, a torrent which falls into it from a precipice, conveying the eventual waters of a moderate extent of rocky mountains, known by the inhabitants under the name of *Herfuvaz*. This ridge of *Herfuvaz* joins the bottom of the mountain *Dinara* with that of *Gnat*, and divides the plains watered by the *Cettina*, which is the *Tiburus* of the geographers, from the extensive vallies that are watered by the *Titius*.

This river forms itself into a large channel, within a hundred paces of the cavern from whence it issues. The upper bed of which carries off the mountain waters, is thirty feet wide, but it has only a short space to run before it comes to *Tapolye*. * This torrent brings along with it great quantities of a calcarious earth, which has a coagulating quality, producing tartarous concretions. The stone of the Kerka, composed by these mountain waters, is a beautiful species of *Phytopolithus*, sometimes more, and sometimes less compact, in proportion to the greater or lesser declivity of the waters by which it is formed; and retains the impressions of various

* *Tapolye* has its denomination from the poplars which are common there; the popular being called *Tapola* in Illyric.

various plants, which usually grow in marshes and rivers, or on their banks. * This kind of tartarous concretion is not only curious but useful, being very convenient for building either walls or arches, as it is easily worked, resists the action of the air and is not weighty. The torrent just mentioned as having its course higher than what can properly be called the source of the Kerka, is not a permanent stream; for towards the middle of August, when I saw it, the cataract from whence it falls was nearly dry. The height of the upper part of this cataract, above the bed of the Kerka, where it issues out of the cavern, is about a hundred feet perpendicular; and when it is full of water, must make a magnificent appearance. The ridge of the precipice is of a kind of sand-stone coated with long grass and moss; and is curved, forming as it were an arch, under which are several cool grottos, all narrow at the entrance, and entirely defended from the sun. The sides of the mountain which form the banks of the Kerka in that place, are all turned upside down, and shew the most extravagant confusion in their stratifications. They are steep and in some places perpendicular; the marble is of the common whitish kind. Sometimes there are pieces of a very hard spotted or compound *Lava*, which strikes fire and is of a dark ash colour. I there observed again the same phenomenon which before struck me, in the ride from Spalatro to Clissa, on the sides of the mountain, where I saw at a distance the

* *Stalactites vegetabilia incrustans*. Linn. Syft. Nat.

Porus aquæ crustaceus circa alia corpora concretus. Wall.

The bodies of the plants rot after the incrustation, and there remains nothing but the impression on the stone.

the borders of several strata, that seemed to describe arches of a circle with the extremities turned upwards. This phenomenon was still more complicated at Tapolye, where not only one order of arches appears, but frequently two described one above the other upon the same base; and they are reunited at their internal extremities, something like a house top, pointed or horned as it were, after the Chinese manner. The rest of the mountain is all disjointed; and the bed of the cascade is uneven, craggy, and ruinous. The waters of the Kerka issue out below from a dark cavern in great abundance. I was tempted to explore this cavern, and accordingly got into a little boat, somewhat like an American canoe, provided with lighted chips of pine, accompanied by my friend Mr. Hervey. We were not wholly unsuccessful, though we had great difficulty to defend ourselves from the tartarous protuberances of the vault, and to push forward against the current; our lights were soon extinguished, by the quantity of little drops, which constantly fell from the rocks above; and advancing to a place, where the river falls with great noise, through a narrow and steep channel, we found our boat to be in danger of upsetting, by taking in too much water. We retreated, and advanced more than once; and I make no doubt, that, had our boat been better contrived, and fitted out for the purpose, we should have proceeded much further, and, perhaps, have been able to walk on the subterraneous banks of the river. It is to be remarked, that the mountains of Tapolye make a part of the same marble chain, as those of Jarebiza, from whence the river Cettina issues in an opposite direction. There are corn mills on the Kerka, at a very little distance from its source; the wheels are placed horizontally, and the *radii* shaped like spoons. These kind of wheels, which are very convenient where there is little water, may be seen among
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the machines described by the bishop *Fausto Veranzio* of *Sebenico*.

Of the VULCANIC HILLS, which lie between TAPOLYE and KNIN.

The distance from Tapolye to Knin is five miles, either by land or water. In travelling along the heights, I saw many ruinous masses, and considerable tracts of gravelly *breccia*. From thence, descending along the river, after a second visit to the cascade, we stopped at two little hills, opposite to each other; the one of common marble, and gravel hardened into *breccia*, the other mostly volcanic. The last, called *Capitul*, merits observation, on account of the great variety of volcanic matter contained in it. Amongst other kinds, there is a very light whitish stone, with a mixture of yellow *mica*, manifestly produced by subterraneous fire, and which, though not perforated, I think, may be named a micaceous kind of pumice stone, considering its porosity, lightness, and volcanic origin. Examined with the microscope, it appears composed of small vitrescent semifluxed sand, and seems to consist of the same principles, as an excellent sort of tripoli, of which I found a vein at the bottom of the same hill. There are also ferruginous *scoriae*, black and porous; sand stones, both red and yellow; a kind of arenaceous *breccia*, of a violet coloured ground, spotted with white; a species of micaceous slate;* heaps of *pozzolana*, of a reddish colour, consolidated

* *Mica squamosa alba*. Wall. sect. 74. 3.

Mica squamosa, rigidula, argentata. Linn. 58. 3.

Mica compacta, membranis squamosis, argentea. Wolterfdorff. min. 17.

dated almost to the hardness of stone;* and many stones resembling porphyry, which retain manifest marks of ancient fusion. This hill of *Capitul*, in regard to the substances of which it is composed, as well as in its form, bears a great resemblance to *Monte-Nuovo*,† which stands insolated near our other Euganean hills of volcanic origin. But *Capitul* contains still a greater variety of different substances than *Monte-Nuovo*. On the summit of the hill, are scattered pieces of *breccia*, here and there, and on all the neighbouring volcanic hills, to the right of the river, as far as the small town of Knin, ‡ which has the title of a bishoprick, but not the residence. This town is thought, by most of the writers on Illyric affairs, to be the *Arduba* of the ancients, famous, not so much for the defence it made against *Germanicus*, as for the untameable courage of the women, who rather chose to throw themselves and children into the fire, or the river, than become slaves to the victorious Romans.

Concerning KNIN, MONTE CAVALLO and VERBNIK

No place is now found on either of the rivers, Kerka, or Cetina, that agrees better than Knin with the description given by Dion Cassius of the castle of *Arduba*.* The river Kerka on one side,

* *Terra Puteolana rubra*. Wall.

Cæmentum induratum. Cronst. 209.

† *Monte-Nuovo* of the Euganean hills, seems, by its name, to indicate a posterior birth. The substance of which it is composed, demonstrates its origin from subterraneous fire, like the *Monte-Nuovo* of Pozzuoli.

‡ In the publick records, it is called Tnin, Tnina, Tninium, and Tnena. The name of Knin, or Klin is perhaps derived from Klin, *cuneu*, as it actually stands on the point of a neck of land

* “ Germanicus also took *Arduba*, a castle———very strong, and almost-entirely surrounded by a rapid river running at the foot of it. Dion Cassius lib. 56.

side, and the Butim schiza on the other, water the narrow neck of land, on which the present castle stands. But the historian mentions only one river, and not a confluence of two, and calls it rapid, which agrees not with the Kerka, which at present runs under the walls of Knin, with a very slow and gentle course.

As no pains are taken to keep this river within its banks, it often overflows them, and forms a marsh directly under Knin, which renders the air unhealthy in the neighbourhood. I saw no antiquities of any kind there, excepting Roman coins, of which there are many, and especially of the times of the good Emperor *Antoninus*. Ancient Venetian coins, and those of other cities and states, of the middle age, are frequently found in these parts.

Over against Knin, on the other side of the Kerka, stands the hill called *Monte Cavallo*, at the bottom of which, the Cossoschiza falls into the Kerka; the waters of the former descend from the volcanic hills of Cossovo, the lower parts of which are covered with turf, but it lies there useless.

Not many years ago, a canal was cut, with a view to draw off the water, which overflows these plains; but the work being abandoned too soon, that good intention was not answered. Monte Cavallo is now almost quite uncultivated, though there is a tradition at Knin, that, in past ages, it was famous for its exquisite wine; as was also Verbnik, a hill contiguous to it. On this last hill, many kinds of volcanic substances may be collected; among which, a reddish, brick coloured stone, mixed with a vetrified black and shining iron sand, is remarkable. The top of the hill is of a calcareous ash coloured stone, very
O
compact,

compact, and full of marine bodies, like those of the *Sete-communi* in the Vicentine. The high road divides Monte Cavallo from Verbnik; the bottoms of which are of a coarse grained porous whitish limestone, tinged with reddish ochre. Half way up the hill, there is an irregular prominent mass of a friable inferior sort of granite, which seems to extend from its bowels, in a direction towards the contiguous hill. The breadth of this mass above ground is about two hundred feet; the solidity of the substance is unequal, but always less than that of our Paduan granites. I frequently found pieces very much resembling those in the hills of Galzignano, among the sandy ochrous stones thrown out by those ancient volcanos.

Above this volcanic matter of Monte Cavallo, there is a stratum of hard calcareous stone, and, above that, another of gravelly *breccia*: at the extremities, is a mixture of calcareo-marine, and volcanic matter. The calcareo-marine mass, and the strata of gravelly *breccia*, which are also of the same nature, are much higher than the volcanic substances; and if a little torrent, in the course of years, had not discovered them, it would scarcely have been imagined, that the interior parts of the Verbnik had suffered by subterraneous fire; for the confusion and disjunction discernable on the outside, would not have shewn from whence they were derived. These parts are still subject to frequent earthquakes; and, probably, were much more so, in early times; it is not easy to conceive, that, without the most violent agitations, whole strata of rounded stones, which still possess a great part of the heights, could be torn asunder, and sunk; and that new hills, of a substance that had undergone the action of fire, should arise from that absorption; and sometimes that masses of ancient gravelly *breccia* should be raised among them.

The

The channel of the river must have suffered great changes, and one clear indication of it is, the steepness and height of the craggy cascade of Topolye, from whose upper edge, if a line were drawn, it would reach above the tops of the new hills, and fall in with the side of Verbnik. Not far distant from Monte Cavallo stood the ancient Liburnian city of *Promona*, which cost the Romans so much. The country round it is very rugged, and it would require time, and great leisure to collect the remains of antiquity that are scattered up and down. The vestiges of the wall which *Augustus* caused to be built by his soldiers, for fifty *stadia* of circuit, in order to cut off the communication between the Illyrians, who had fortified themselves in *Promona* and their allies of the neighbouring territories, are still to be seen on the tops of those craggy mountains. The Kerka passes between Verbnik, and the hill of Knin, through a narrow and crooked channel, which retards the current much; and the stream of Butimschiza falls into it a little below, which occasions a further impediment, by the quantity of sand and gravel brought along with it, rendering dangerous the navigation, which is moreover often interrupted on this river by cascades.

Of the confluent Waters, and Course of the River KERKA, to the Monastery of St. ARCANGELO.

The Butimschiza takes its source at the foot of the hill of Stermizza, by the union of three small currents, the largest of which, called *Czerni-potok*, or the black torrent; after running nine miles from mount Gelinach, in a winding course, it meets the water of Maracai, arising out of mount Plissiviza, and then after a course of six miles more, enters, together with

with the stream of Tiscovci, into the bed of the largest torrent. The Tiscovci, or Tiscovaz, falls into the black torrent a little further up than the Maracai, proceeding from mount Vulizza, and traversing the extensive plains of Sarb and Dugopoglye, which the Vulizza and the hill Trubar divide from the plain of Grahavo, beyond the Venetian confines; and lastly, not far from the heights of Knin, the stream Butimschiza is augmented by the Plavnanschiza, a water derived from the hill which commands the plain of Plavno, having first received the little torrent of Radugli-Potok, which, in some of the best maps, is named Radiglievaz. The confluence of so many torrents renders the Butimschiza very stoney; and I am apt to think, that, from the immense quantities of sand and gravel, which, at its mouth, are carried into the Kerka, occasions the boggy state of the plain of Knin, which would otherwise be very fertile; and I wonder that this has never been remarked, nor attended to by others. Perhaps the bridge over the torrent, just at its entry into the Kerka, contributes also, not a little to accumulate the rubbish before mentioned. This bridge is about two hundred geometrical paces long, and has ten arches; but is narrow, ill paved, and dangerous for horses, as almost all the Turkish bridges are in these parts. It is probable, that, if the confluence of the Butimschiza was more properly directed, and removed somewhat lower, the plain of Knin, might, in a great measure, be recovered. And I have no doubt, that this probability might be reduced to a demonstration, by those able men whom the Government uses to employ in such cases.

Six or eight miles lower, the river, which, though its channel is always considerable, yet is mostly confined between steep
perpen-

perpendicular rocks, meets with an impediment at Babovdol, and forms a small cascade. The stoney little island, which there obstructs the current of the river, a little above it, forms a kind of lake, and causes the channel to be choaked with reeds, and other such marshy plants. Besides, the tartarous sediment of the waters constantly tends to raise the bed, which is divided by the Island of Babovdol, and consequently the waters becoming daily higher, frequently overflow the neighbourhood of Knin, to the great detriment of the inhabitants. The course of this river was certainly not thus neglected in the times of the Romans, for not many years ago, in digging there, they found buried seven feet under ground, an architrave and cornice of Greek marble, elegantly adorned with bass-reliefs, representing festoons of flowers, tortoises, crocodiles, and other amphibious animals. This probably stood above the gate of some pleasure house. The friars of Knin conveyed it to their convent, and broke and mangled it, according to the custom of religious barbarism, in order to make some ornament or other to the church. Supposing then, that the bed was actually deepened seven or eight feet more than it is, and the island joined to one of the shores, there would be less hindrance to navigation, and the deeper channel only remaining, the water would be less interrupted and might be directed in such a manner as to render innundations, very rare, and less dangerous to the country. The situation, salubrity, and healthfulness of the air, on the very rich plains and heights about Knin, are objects of much importance, although the government seems hitherto not to have reflected upon it. Near the cascade of Babovdol, in the crevices of the rocks, high above the river, I collected some fine specimens of moss, most beautifully incrustated. There are also *Pisolithi*, resembling, in structure, the bezoar of animals.

animals, and the *confetti* of Tivole, but not so white, and solid as the last. Amongst the stones of the river, near Babovdol, are polypes. But I did not bestow much attention upon them, since the discoveries of Trembley, Baker, and the celebrated Bonnet, have amply satisfied the curiosity of the publick upon these subjects.

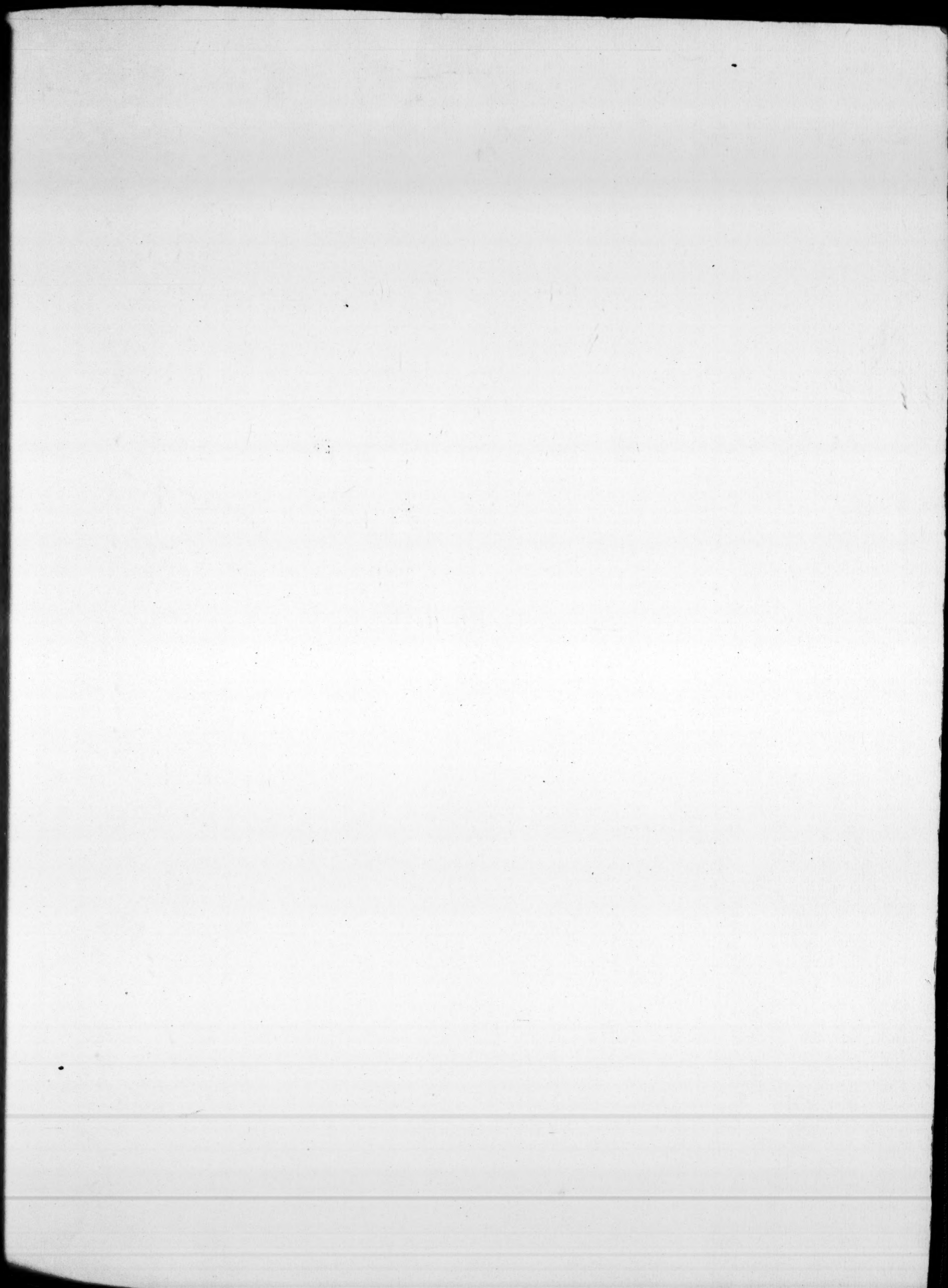
Of the Ruins of BURNUM.

Travelling by land from Knin, to the monastery of the hospitable *Calogeri* of St. Arcangelo *, we kept in the road along the river, which runs from thence mostly confined by hills of marble on both sides, and rarely finds a communication with fields or villages. We saw many vestiges of ancient Roman habitations along the desert of Bukoviza: but miserable vestiges indeed! stones roughly hewn, with square holes in them to fix the poles of tents, or such like covering, lie scattered on both sides of the road for upwards of a mile in length. Many fragments of inscriptions are seen here and there, among which there is a piece of an isolated pilaster, adorned with bas-reliefs at all the angles, and on it the remains of an ancient elogium, in very large letters, and well preserved.

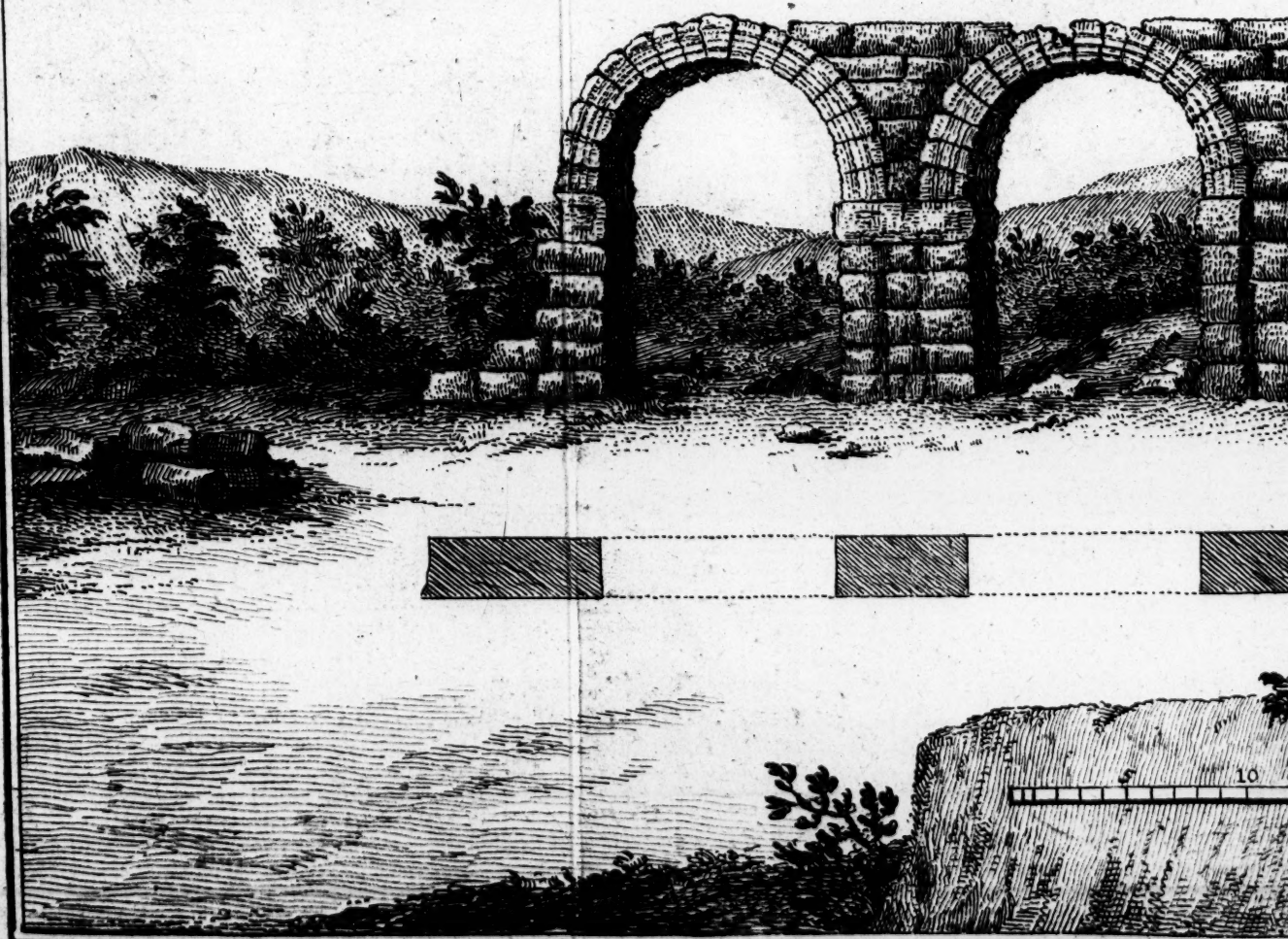
There is every reason to believe, that the city destroyed on this spot was the *Burnum* of *Procopius*, and the *Liburna* of *Strabo* †. The *Tabula Peutingeriana* places Burnum on the right of the

* The *Calogeri* of St. Arcangelo on the Kerka have a pious tradition, that St. Paul celebrated mass in a little chapel contiguous to their convent. The *Morlacchi*, of the Greek church flock to that sanctuary with great devotion, but poverty prevents their bringing rich gifts.

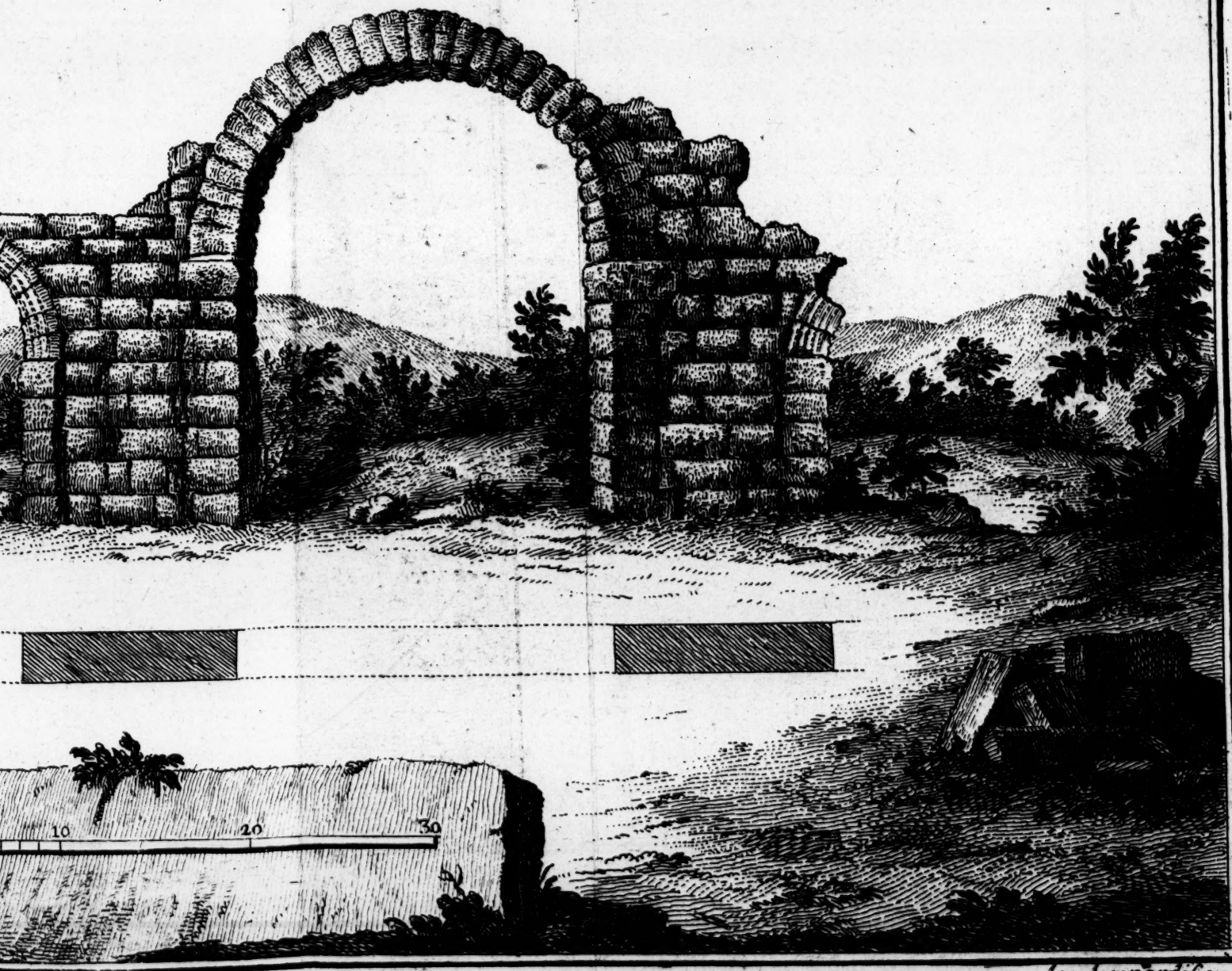
† *Merianus* (Topograph. Carniol.) had much less reason to place the ancient Burnum where *Gottschevia* now stands; that spot was not inhabited in the Roman ages,



ARCHES called *SVPLIACEROV*
on the right hand



ROYA from the Ruins of the CITY of BVENVIN
band of the River KERRA.



Jac. Leonardi sc.



the river Titius, above Scardona, twenty four miles from *Nedinum*, which is the present *Nadino*, and reckoning from the three arches, still existing by the name of *Suppliacerqua*, or the perforated Church, to this place, the distance is just twenty five miles. Not many years ago, there were five arches, two of which were taken away by a Morlacco for his own particular use. One of the remaining three has a chord of twenty one feet, and the other two, to the right of it, about half as much. Time has greatly damaged this ancient monument, which is built of a soft stone, like the *Moilon* of the French, and less compact than our stone of *Nanto*, or *San Gottardo*, in the Vicentine hills. Yet the remaining arch shews manifestly, that it was erected in the ages of good architecture; and if the rubbish around it could be easily removed, there is no doubt but the proportions would be found just. I had a drawing made of it (Pl. v.) but I cannot determine to what purpose these five arches of *Suppliacerqua* have been erected; but it seems that they were intended to stand isolated, for the channels and cornices are equal on both sides. Perhaps it was a triumphal monument of five arches. No other ruins are to be seen there about worthy of notice but large stones are found buried under ground, and in the neighbourhood are the remains of a Roman road. The precise place where the arches stand is called *Suppliacerqua*;

ages, and is far distant from the places mentioned by ancient geographers as near *Burnum*. Another geographer was still more mistaken in placing this ancient city on the river *S. Vito*, where *Tarfatica* indeed once stood, but not *Burnum*, which must have been two hundred miles distant from it. *V. Schonleben Carricola, antiq. et nova.*

and

and the neighbouring tract overspread with ruins, goes by the name of *Trajanskigrad*, which names *Trajanopolis*.

Course of the River to the Fall of Roschislap.

The Kerka runs on the right of the arches, in a deep channel, between the hills, and forms a cascade, near a poor cottage, which, beheld from above, appears to be delightfully situated; but the air cannot be good in such a deep hollow; yet in the same low, damp valley, five or six miles further down, is situated the monastery of the *Calageri* of S. Arcangelo, on the brink of the river, and at the foot of a hill, whose top is partly of gravelly *breccia*, and partly of common Dalmatian marble; but the bottom is of a substance totally different: The road which leads to the monastery, is cut through the side of the hill, and shews several strata of scissile marble, of various hardness, which sometimes moulders between the fingers, sometimes flies off in scales like flintstone, and sometimes is a concretion of rounded stones; and may be called a sort of *calcareous, stony, gravelly earth*. It should seem, that in former times, the river, having been choaked up by the sudden fall of a large piece of the hill, had risen far above its ordinary level, and left these strata of mud, and pebbles. I examined the hardened mud with diligence; but could not discover the least vestige of marine bodies; from which I concluded, that its origin was from deposition by the river. Large fragments of marble frequently fall from the impending hills, which form the almost perpendicular banks of the Kerka, as is evidently seen near the fourth cascade at Roschislap. The last rock, that was precipitated on the bank of the river by the violent earthquake in 1769, is a hundred and fifty feet high, and seventy two feet in cir-

circumference. This mass is composed of rounded stones, white, red, grey, and in short of every colour, and degree of hardness. The greatest part of those which are coloured contain *Lenticulares*; and I found, in a broken piece of the same mass what I had never discovered before; that is, *Lenticulares* calcined, and become perfectly white, their concamerations remaining still entire, and, by the help of a good glass, perfectly distinguishable, and void. This mass, which fell down from the highest part of the hill in 1769, adhered to a brow, that is now inaccessible: in past ages, however, it must have been of less difficult access; as there is the sepulchral inscription of an old soldier still visible on the exterior part of the fallen rock. If reason, led simply by repeated daily experience, were not sufficient to prove, that the ancient state of the superficies of our globe has undergone very great changes, not only in thousands, but even in hundreds of years, and especially in the mountainous parts of it; it might be proved undeniably, by only observing this tract of country, through which the Kerka runs; and the same effects may reasonably be supposed, in other tracts which border on rivers, or torrents. It would be well if those were sent hither, who, sitting calmly in their own studies, pronounce, that our earth is precisely in the same state now, as it was sixty ages ago; and think they confirm their opinion by sufficient proof, when they refer to the remains of far distant antiquity, which still continue above ground, in elevated places; without taking notice of a much greater portion that lies buried. You have, more than once, been obliged to contend with such reasoners; and were plentifully furnished with examples of the partial, or total fall of mountains; of their destruction by the slow, corrosive action of undermining waters; and of the alteration of their structure, and sometimes

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of their entire subversion, by volcanos: of the beds of rivers changed; of the encroachments, and recessions of the sea; of all which so many instances occur in history, and so many more are obvious to the eye of an attentive observer.

The cascade of Roschissap, seen in front, forms an agreeable prospect, which must be magnificent towards the end of Autumn and in Spring. Yet as it can scarcely be expected to exceed the cascade of Terni, I find its true point of view in the middle of summer. The river is three hundred geometrical paces broad below the cascade, where a long and narrow bridge is built over it, of sixty arches; rough, ill constructed, but a solid Turkish work. Between the bridge and the fall are several mills, and the water is divided into various canals. On the intermediate slips of earth are many trees, which are green and luxuriant, from the perennial moisture. Sometimes the verdure is interrupted by the froth of the waters, which fall with impetuosity, and noise, from a height of above twenty feet. Nor does the whole water of the river concur to form the various rivulets which beautify the cascade; for a good part of it passes through the chinks of the rocks below. As far as I could discover, this river leaves no tartarious sediment, or incrustations, unless where it meets with resistance and impediment; or where the declivity is considerable, and of course the current rapid. In the plain of Knin, where it runs slowly on an equal bed, it petrifies neither roots nor plants, although it waters many, because it finds no resistance. I believe it may be positively asserted, that the various falls which render the Kerka unnavigable, have been produced by rocks and masses tumbled from the hills into its channel. Hence the tartarious incrustations finding room to increase among the apertures, and the unevenness of the masses, by
length

length of time, and the disposition of the place, forced a part of the waters to take their course over them, there not remaining sufficient passage below. I should also suspect, that no tartarous waters, excepting such as proceed from hot mineral springs, will leave incrustations where their current is flow; and that both hot and cold will produce them always, in proportion to the narrowness and declivity of the channels through which they run. If the incrustations of a tartarous water grow to larger bulk in places of less rapid course and smaller declivity, than in others more narrow and inclined, the hardness and weight of the stone formed, in these last, will counterbalance the greater bulk of the first. In like manner, I have always observed, that in stillicidious caverns, the trunks or stems of the calcareo-spatous columns which arise from the subterraneous strata, are more or less pure and compact, according to the height from whence the drops fall, which are impregnated with saline and crystalline particles. And the incrustations formed by larger stillicides of water are always less solid, and consequently more charged with earthly particles, and worse coloured. These strata of gravelly *breccia*, which occupy the plain tops of the hills, between which the channel of the river is sunk, are by nature easily disposed to tumble down, and that not only along the bed, but also along the deep vallies and hollows which convey, or in former times, conveyed their eventual waters into the Kerka. I saw the bottom of a valley to the right of Roschilap all covered with large pieces of rock, which had fallen from the heights; and on one of them I found the remains of a corroded and mutilated inscription.

Course

Course of the KERKA, to the Cascade of SCARDONA.

The river, or rather torrent *Cicola*, which has its source under Gradaz, fifteen miles from Knin, runs likewise into the Kerka, after having received the waters of the *Verba*, augmented by those of Mirilovich. On the right side of its banks lies the town of Dernish, which the Turks gave up to the Venetians. The territory belonging to this place is extremely fruitful and pleasant. Not far from Dernish is the small village Tribuje, probably the *Tribulium* of the ancients, where some miserable vestiges of Roman habitations are still to be seen. It would be tedious, and disagreeable to enlarge on the bad direction of the waters, as well as those of the Butimschiza, which I mentioned already. They might be made fountains of riches to those districts; and instead of that, they produce only misery and reproach. Not far below Roschislav is the island of Vissovaz, which is only the top of a hill, the bottom being under water; it is inhabited by friars, faithful labourers in the vineyard of these places, which would be thought too fatiguing a life by most secular priests. The river is very broad here, but furnishes no object of observation; it runs slowly, because the fall at the mills of Scardona, though five miles further down, retards the current. This is the last, and most magnificent fall of the Kerka, and would be doubly so, if art had not profited, by the opportune situation of the place, to build many houses, and mills. Here is formed an undulated species of *topbus*, of a saline grain, which might be taken, at first sight, for fossil wood. Novices in natural history often collect it as such; tho' it is only the work of water, impregnated with tartarous particles. The lines denoting the divisions of the little strata, and the difference of time in which they were formed by the water,

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are, in such cases, pretended to be longitudinal fibres of the wood; and prejudiced eyes likewise easily distinguish the transversals. A similar error is also produced by some species of volcanic stones, variegated jaspers and flints, which represent knots and excrescences, like those on trees; and it is not easy to convince those of their mistake, who are not used to collect fossils personally in the mountains, where every one may be convinced, who does not carry a great deal of prejudice along with him. *Simon Gliubavaz, Giovanni Lucio, and P. Farlati* after them, wrote, that, in former times, an aqueduct run from this fall of Scardona, to Zara, which is fifty miles distant; they fell into this error, by finding the remains of a mean brick canal along the banks of the river, on the right of the fall at the mills, reaching to the mouth of the lake; but this, in all appearance, conveyed the water no farther than Scardona. And, of the impossibility of bringing the water from thence to Zara, I have already spoken at large, in giving an account of the vestiges of other aqueducts, which are seen near the sea, in the district of that city. Scardona stood in very great need of aqueducts; for the waters of the lake, into which the Kerka falls, are brackish, almost throughout the whole year; and the springs do not supply a sufficient quantity for such a large population. The course of the river Kerka, from its sources at Topolye, to its fall into the lake of Scardona, is not above thirty miles.

In riding from the monastery of S. Arcangelo to Scardona, within three miles of that city, I saw a little torrent, which, among other vulgar stones, carries along with it, heaps of a blueish stoney earth, full of marine fossil bodies. On seeing these
adventitious

adventitious pieces, I searched further, and discovered in several places whole strata of this earth, particularly near the top of the hill to the left of the road. The fossil bodies observable in it, are *Nummularii*, *Lenticulares*, and *Porpitæ*, of a similar figure, small *nuclei* of *Bucarditæ*, many *fungitæ*, and articulations of *stellæ marinæ*. I found at Scardona, great quantities of *turbinitæ* in the common marble, and took various specimens of them. Not far from this torrent, near a place called *Ruppe*, there are found large teeth of the *Canis Carebarias*, which answer to the description given by Scilla, Tab. III. Fig. 1. I could not visit the spot myself, but saw several of those teeth in the possession of creditable persons, who assured me they were to be found in great quantities.

Of the City of SCARDONA, and of some Passages in ancient Writers, concerning the Mineralogy of DALMATIA.

No vestiges now remain visible of that ancient city, where the states of Liburnia held their assembly, in the times of the Romans. I however transcribed these two beautiful inscriptions, which were discovered some years ago, and are preserved in the house of the reverend Canon Mercati. It is to be hoped, that, as the population of Scardona continues increasing, new lands will be broken up, and consequently more frequent discoveries made of the precious monuments of antiquity. And it is to be wished, that the few men of letters, who have a share in the regulation of this reviving city, may bestow some particular attention on that article, so that the honourable memorials of their ancient, and illustrious country, which once held so eminent a rank among the Liburnian cities, may not be lost, nor carried away. It is almost a shame, that only six legible inscriptions actually

ually exist at Scardona; and that all the others, since many more certainly must have been dug up there, are either miserably broken, or lost, or transported to Italy, where they lose the greatest part of their merit.

Roman coins are very frequently found about Scardona, and several valuable ones were shewn to me by that hospitable prelate Monignor *Trevifani*, bishop and father of the rising settlement. One of the principal gentlemen of the place was so kind to give me several sepulchral lamps, which are marked by the name of *FORTIS*, and, by the elegant form of the letters, appear to be of the best times. The repeated devastations, to which Scardona has been exposed, have left it no traces of grandeur. It is now, however, beginning to rise again; and many merchants of Servia, and Bosnia, have settled there, on account of the convenient situation for trade, with the upper provinces of Turkey. But the city has no fortifications, notwithstanding the assertion of *P. Farlati* to the contrary.* In all my peregrinations through Illyrium, I have hitherto met with no mine of any kind of metal, excepting one of iron, not far from Seign, of which, also, they made a kind of mystery to me, though I know not for what reason. They say, there are rich mines at Hotton, in the territory of Knin; but I did not go there; and little dependance can be made on such popular reports, of greedy and ignorant people, who think they see gold and silver in all the *Peritæ*. There is no doubt, however, that Dalmatia, in ancient times, produced a great deal of gold, as several writers testify. Pliny, among others, who had the opportunity of knowing it, says, that under the emperor Nero, fifty pounds of gold were taken daily from the mines of that province, and that it was
found

* *Illyr. Sacr. t. i.*

found on the surface of the ground, *in summo cespite**. Florus writes, that *Vibius*, who was sent by *Augustus* to subdue the Dalmatians, obliged that fierce people to work in the mines, and to cleanse the gold. *Martial*, likewise, writing to *Macer*, calls Dalmatia *terra aurifera*, and it seems to have been his opinion, that the county about *Salona* particularly deserved that appellation.

*Ibis litoreas, macer, salonas;
Felix auriferæ colone terræ.*

And it appears, by a verse of *Statius*, in his *epithalamium* of *Stella*, that the gold of Dalmatia was become a proverb:

Robora Dalmatico lucent satiata metallo.

a passage that permits us not to doubt of either the existence, or abundance of this precious metal. In the same manner some of our poets have called gold *Peruvian* metal, and their meaning is perfectly well understood.

Concerning the COMMON REPORTS relative to DALMATIAN MINERALOGY.

Notwithstanding all these testimonies, which have induced several people to flatter themselves with the hopes of finding treasures; I cannot persuade myself, that there are mines, either of gold, or silver, in the mountains along the coast, properly called Dalmatia; there not appearing at least, any of the characters of mineral

* *Aurum qui quærunt ante omnia segullam tollunt (ita vocatur indicium.) Alveus ubi id est, arenæque lavantur, atque ex eo quod resedit conjectura capitur ut inveniatur aliquando in summa tellure, penitus rara felicitate; ut nuper in Dalmatia, principatu Neronis, singulis diebus etiam quinquagenas libras fundens; cum jam inventum in summo cespite. Plin. Hist. Nat. Lib. xxxiii. cap. 4.*

mineral mountains. Perhaps the inland mountain of Promina, where the city of *Promona* stood, may contain mines, as some Dalmatian writers affirm; but I have not yet been able to examine it with proper care and attention; I am inclined, however, to suspect, that the Dalmatians have suffered themselves to be imposed upon, by the name of the mountain itself, through the apparent analogy it has to mines; though perhaps it may be originally derived *aprominendo*. I was told, that the small river *Hyader*, now called *Salona*, from the ruins of the city which once bore that name, carries from its sources, some little gold dust in its sand; and have heard it also asserted, that the poor inhabitants of its banks sometimes collected it, though in very small quantities: but on diligent enquiry, I found these reports without the least foundation. I was also assured by several persons, and even found it written, in the records of the province, which I examined for that purpose; that there is a rich mine of quicksilver, at a place called *Subidolax*, above Sebinico, but this I found absolutely false. And indeed all my endeavours hitherto have given me but little light relative to this article. I am still unacquainted with the topography of this vast country, having visited only a part of it; but by all that I have been able to observe, it seems probable that no valuable mines are to be found in the calcareous mountains adjacent to the sea, nor in the valleys watered by the Kerka, and Cettina. The ancient mines were probably further up the country, and then the confines of the province reached further inwards. If it be true that gold dust is actually found in the sand of the river Travrick in Boffina, perhaps the rich mine, of which Pliney speaks, is to be looked for along the course of that river, and about its sources. I know not if this be the same river, from the bed of which there arises a brisk fountain of subacid water, which raises itself considerably

Q above.

above the superficies of the current. I have been told that the Bosnians make use of this water to cure tertian agues; and that when put in vessels and transported, it deposed a ferruginous sediment, &c. According to the accounts of many who have frequently travelled in Boffina, it is a country well furnished with mineral mountains; and they say it has rich mines of gold and silver. The place where they are found goes by the name of *Srebrarniza*, which means, *country, or land of silver*, being derived from the word *Srebro*, which signifies *silver*, in all the Sclavonian dialects. I had a specimen of that mine, and it resembles the native silver of Potosi. It is in small thin leaves like moss, and is found combined with pure yellowish quartz, but unmixed with it. Many other things were related to me concerning the fossil history of Boffina, but I think it improper to mention them, upon the simple report of others. I know by experience, that in facts of natural history, a prudent incredulity is very requisite.

If the minute details into which I have occasionally entered, have appeared sometimes tedious, I hope you will not reproach me on that account. Exact precision is the first quality of an observer who aims at national advantage, by pointing out the places which want cultivation, and the advancement of natural science, by describing the productions of nature. Besides these objects, I thought it my duty also to rectify the mistakes which authors, who have wrote about this country, have fallen into; and I have consulted the convenience of travellers, by indicating popular reports which I found to be false. Nor have I omitted to mention the remains of ancient settlements, though that belongs rather to the antiquary, than to the naturalist. I have, indeed, more readily taken notice of them, as they give a juster idea of Dalmatia

matia than we have generally entertained ; for if it were that horrid country which it is often represented to be, so many Roman colonies would not have been planted in it.

Although I am not ignorant of the little influence of any publication, nor of the great prevalence of prejudice, yet I cannot help expressing my hopes, that my travels in these parts may, at some period or other, be of use and advantage to the Dalmatian nation ; and I should think myself the most fortunate of travellers, if, before I terminate my existence here on earth, I were convinced that I had not existed in vain.

though then we have generally continued, for it is very thin
being cloudy which is a common phenomenon. It is very ho-

mon clouds would not have been observed. Although I am not a member of the Irish Institute, I have
known some of the most distinguished scholars, and I cannot
help expressing my regret that my name is not in their list.
at the present or other, to of us and members of the Irish
Institute, and I should think myself the most fortunate of
them, if I could I determine my residence here on a permanent
basis, and I have not expected in vain.

TO THE
 ABBE BRUNELLI,
 PROFESSOR OF NATURAL HISTORY,
 IN THE
 UNIVERSITY OF BOLOGNA.

Of the District of SIBENICO, or SEBENECO.

MY journey into Dalmatia having interrupted the regular and friendly correspondence, which we have maintained for several years, you will, no doubt, have some curiosity to know the result of it. And as you are a lover of natural history, and appointed a Professor of it in that Academy, where it flourished under the labours of an Aldrovandi, Malpighi, and a Marfigli; and being likewise a most diligent searcher into records, that tend to throw any light on the literary history of former ages, as well as a good judge, and admirer of every part of foreign literature; there cannot be any person so well qualified as yourself, to relish the variety of my observations. I therefore address a part of them to you, in testimony of my esteem and friendship, and as some return for the useful intelligence which you frequently favour me with, from your City, where every part of literature, and every science, meet with protection and encouragement.

Of

Of the City and Territory of SIBENICO.

The territory of Sibenico, of all the other provinces of Dalmatia that I have hitherto visited, is, on account of the antiquities and natural productions, most worthy the attention of a curious traveller. It runs along the sea for above thirty miles; reaches in some parts above twenty within land; and comprehends about seventy greater and smaller islands. The variety of the objects, the amenity of the situations, and the hospitality of a few polite and learned friends, among whom I name, with pleasure, the family of Count *Francesco Dragenich Veranzio*, and Count *Giacinto Sappe Papali*, would have determined me to have staid in those parts several months, making that city the centre of my marine and mountain excursions. But the circumstances of my commission in Dalmatia forced me to hasten my departure from that neighbourhood, without being able to finish the several observations and remarks which I had begun. You, who know how much time is necessary to examine every minute particular in a country hitherto little explored, will not be surpris'd if my observations in this district appear a little imperfect, and in a great measure unworthy of the publick.

The City of Sibenico, which lies nearly forty miles in a right line from Zara, cannot boast a very illustrious origin. Those who pretend that it arose out of the ruins of *Sicum*, a Roman settlement, where *Claudius* sent a colony of veterans,* found their opinion on such weak reasons, that they merit not a confutation. The *Tabula Peutingeriana* places no other name of a town in Dalmatia,

* Plin. lib. 3. c. xxii. *Tragurium civium Romanorum marmore notum; Sicum, in quem locum Divus Claudius veteranos misit.*

Dalmatia, that has any likeness to *Sicum*, but *Siclis*, and that lay between Trau and Salona. Sibenico has no vestige of what can be called antiquity; nor remains of walls, or stones of Roman workmanship. One single inscription only appears in the walls of the city, near the gate that leads to the harbour, and that was brought hither from the internal part of the territory, called *Campo di sopra*, where, probably, in ancient times, *Tariona* stood. *Lucius* thinks that Sibenico was built by the Croats, in the times of the declension of the Empire; and *Giambatisto Guistiniano*, who wrote a century before *Lucius*, says, in his manuscript account of Dalmatia, that this city — “ was founded by a
 “ banditti, or *eusacchi*, as they are sometimes called, who, before
 “ they built it, used to live on the high rock where the castle now
 “ stands; and when they discovered any vessel near shore, they
 “ came down, and, in their boats, which were concealed at the
 “ foot of the rock, surrounded by a thick wood, went out and
 “ plundered it; in process of time they began to build some
 “ cottages, inclosed with a kind of pallisades, called *fibue*, from
 “ whence the city got the name of Sibenico. The city, by lit-
 “ tle and little, began to increase, by the concurrence of those
 “ robbers; and afterwards, when the ancient city of Scardona
 “ was destroyed, many of its inhabitants are said to have removed
 “ to Sibenico, which though then it had not the name of a city,
 “ obtained it sometime after, and was governed some years by its
 “ own inhabitants, without being subject to any prince. But
 “ this liberty was of short duration; for the king of Hungary,
 “ who was at that time sovereign of Dalmatia, began to tyrannize
 “ over the people of Sibenico, who, impatient of the yoke, and
 “ not able to bear the insolence of the Hungarians, in regard to
 “ their wives and daughters, as well as their substance, came to
 “ the resolution of submitting voluntarily to the republick of Ve-
 “ nice,

“ nice, as being a just and equitable government; this happened
 “ in 1412, on the 12th of July, under the most serene Doge *Mi-*
 “ *chele Steno*, of happy memory.”

But whatever may have been the true origin of this city, whether it was like that of Rome, or sprung rather from a series of small augmentations, it has certainly the best and most agreeable situation of any city in Dalmatia; and, next to Zara, it is also the best built, and has the greatest number of noble families, who are now as far from the barbarous manners of ancient pirates, as their houses are unlike the former cottages, or *fibice*. It is defended on one side by a castle situated on a hill, which held out against repeated attacks of the Turks; and towards the sea, upon a narrow channel at the mouth of the harbour, by another fort, a noble work of *Sammichelli*, and whose gate is very like the celebrated gate of Verona, by the same architect. Among the buildings of Sibenico, the dome or cathedral, though in the style of the barbarous times, merits particular notice, for the magnificence of the fabrick, and much more for its roof, which is composed of large flat pieces of marble connected together; a work as bold as any other of a like nature, in the Roman times. In the xvith centry, the arts and sciences flourished in this city more than in any other of Dalmatia. It has several buildings in a good taste of architecture; and has produced many eminent men worthy of particular notice.

Of Men of Letters who flourished at SIBENICO, in the xvith Century, Painters, &c.

Among the illustrious men of Dalmatia, *Antonio Veranzio* of Sibenico deserves, in every respect, the first place. Scattered
 remains

remains of this great man are found in many cotemporary books, as well as in some of the writers on the affairs of Hungary after his time. But none of them have purposely wrote the history of his life, * which nevertheless, deserves a distinguished place, as well among men of political, as literary merit. Though I have neither leisure nor abilities to enter upon such a subject, yet I presume it will be amuzing to relate succinctly such circumstances of his life, as I had an opportunity of collecting from the valuable papers preserved in the noble family of the counts *Draganich Veranzio*.

Antonio Veranzio was born the 29th of May, 1504, of Francis, a gentleman of Sibenico, and of Margherita Statileo, a lady of Trau. He passed the earliest part of his youth at Trau, with his maternal uncles: but returning to his native place, he had for preceptor *Elio Tolimero*, of whom some pieces of latin poetry, not without merit, are preserved among the papers of Veranzio. After he was well grounded in the Greek and Latin authors, he was called to Visprimio by the famous Bishop and Ban Pietro Berislavo of Trau, who was his uncle by the mother's side, and of whom he learned the first rudiments of the military art. But this warlike bishop being barbarously killed by the Turks, in 1520, Giovanni Statileo, a man of great authority at the court of Hungary, and bishop of Transilvania, sent for his two nephews, our Antonio, and his brother Michele. One of Veranzio's first literary productions seems to

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have

* Belius, in his *Hungaria nova*, vol. I; and Schmit *Archiepiscopi Strigoniensis compendio dati*, gave a sketch of the life of Veranzio; but both of them fell into mistakes, and treated their subject in a dry manner. And *Szentivanius* believed that he was born in Transilvania.

have been the life of his uncle Berislavo, which, a hundred years after, was appropriated, by a shameful plagiarism, by Tomeo Marnavich, without changing almost a single word *. About this time Antonio was sent to the university of Padua; but the disturbances which broke out in the kingdom of Hungary, occasioned his recal thither soon after. It appears, however, that he continued his studies at Vienna, and afterwards at Cracow; in both which universities his brother Michele certainly studied. Antonio, after his return into Hungary, was obliged to exert the utmost degree of patience in bearing the ill usage of his uncle, who was a man of a harsh and obstinate temper, and often treated both his nephews in a very mortifying manner, which Michele particularly could not bear. In the mean time Antonio ingratiated himself with *Steffano Broderico*, bishop of Vacia, of whom there remains a good manuscript commentary of the fatal day of *Mohax*, where he fought in person, and with the monk *Giorgio Utissenio*, who were both very powerful at the court of King John Sepusius. In 1529, he was employed by that unfortunate monarch, in some difficult commissions, on the confines of his distracted kingdom; and attended him when he was besieged in Buda by William Rogen-dolff, general of the malecontents. He obtained the post of Secretary of state, and was made governor of old Buda; for both which he gave particular thanks to Broderico, in verse. He went into Transilvania, by commission from the king, to manage the affairs of the bishoprick, in the room of Statileo; and it appears by his papers, that he not only copied the inscriptions that were already discovered, but caused others to be dug up

* *Vita Petri Berislavi* Vesprim. Ep. Slav. Dalm. & Croat. Bani, Jo. Tomeo Marnavich auctore. Ven. ap. Evang. Deuch. 1620, in 8vo.

up in places where any Roman ruins appeared. The siege of Buda being raised in 1530, he was sent on public employment twice to Sigismund king of Poland, and twice to the republic of Venice. The year following he went to pope Clement VII. afterwards to Paul III. and immediately on his return into Hungary was dispatched again to Sigismund. About the end of 1534, this celebrated man was sent into France to Francis I. where he also returned on a second embassy, and from thence passed over to England to Henry VIII. at whose court he was in the month of January, 1535. It is probable that, about this time, he contracted a friendship with the great *Erasmus* of Rotterdam, and an esteem for Melancthon. A letter from Erasmus is still carefully preserved by the present count Francesco Dragani Veranzio; and there is, among the manuscript latin verses of our Antonio, an epigram in praise of Melancthon. In his last will, made before he set out for France, are the following words; "*Mibi, si moriar, pompas sepulchrales, aut missas fieri nolo ullas. Hospitale pauperum juvetur. Ego contentus ero si in Domino moriar.*" a circumstance that proves, at least, his charity to the poor. On his return to court, the king sent him ambassador, with two other colleagues, to Ferdinand of Austria, king of Bohemia: but this embassy had not the desired effect. king John died in 1540; and Veranzio, from whom there are two long letters, on this event, to Giovanni Statileo, then ambassador in France, seemed unalterably attached to the interests of the queen dowager Isabella, and of John II. then a pupil. Isabella sent him ambassador, for the eighth time, to king Sigismund, on the occasion of his marriage in 1543, and the speech he made at his audience, which was printed at Cracaw, described, in such strong terms, the mournful circumstances of the unhappy queen, that it drew tears from his hearers. After a
short

short repose, he was sent again, the same year, to king Ferdinand, by whom he was received with much distinction, and had the honour to dine at his table. It appears, that, about this time, his attachment to Isabella began to cool; and her affairs took a very bad turn. In 1544, he resigned the government of Transilvania to Georgio Utissenio, though against his will, as appears by the fragments of a dialogue that he wrote many years after. He continued, nevertheless, some months at Isabella's court, and went, for the ninth time, into Poland, to negotiate affairs with Sigismund. After he had executed that commission, he desired leave to retire, and passed to Sibenico, from whence he soon departed again, taking two or three of his nephews along with him, one of whom was *Faustus*. There is reason to think that he made some stay in Italy till the year 1549, about which time he came to the court of king Ferdinand, who at first gave him some ecclesiastical benefices, and soon after began to employ him in public negotiations. In 1553, our statesman was sent on a special commission to Ali Bassa Beglerbeg of Buda, and in the same year he was made bishop of the Five-Churches, and privy counsellor; he was afterwards sent ambassador to the Porte, together with Francis Zay. It appears that he wrote a copious journal during this embassy, whereof only a fragment now remains, which is, however, highly deserving of publication. * Antonio was obliged to follow Soliman, in his march to attack the frontiers of Persia; and moved from one country to

* The most interesting part of the memoirs of this long and dangerous expedition was given to the jesuit *Riceputi*, who collected valuable records over all Dalmatia, under pretence to make use of them in a work then undertaken *dell'Illirico sacro*. But these memoirs, together with almost all the others collected by him, were unfortunately lost.

to another, with the Turkish army, for the space of five years. In the course of that long time, he collected, and wrote many memorials concerning the government, and military art of the Turks, and the chorography of the countries subject to the Porte. *Augerius Busbekius*, of whom we have a treatise on the Ottoman government among the Elziverian republicks, made several journies, in the mean time, to and from Vienna, and Turkey, and at last concluded a truce. The same Busbek mentions, that Veranzio, and Zay, left Turkey towards the end of August, in 1557. Before the end of this year, Antonio was translated from the see of the five churches to that of Agria; and in the following year there is a letter from Palolo Manuzio to our bishop; and in 1560, he received one likewise from the famous, and unfortunate *Aonius Palearius*. I find nothing remarkable among Veranzio's papers now under my eye, till 1567, in which year he went a second time ambassador to the Porte, from the emperor Maximilian II. and, in a few months time, a treaty of peace with Selim II. was concluded by this experienced minister, on very advantageous terms to all the christian nations. This embassy is celebrated in an elegiac poem by *Giovanni Seccervizio*. Many manuscripts were, doubtless, collected by this learned prelate, during his two expeditions to the Ottoman courts, which now, through the length of time, are entirely lost. But there are still extant, as a sufficient testimony of his genius, the translation, made under his direction, of the Turkish annals found by him in Ancyra. From this manuscript, which is preserved at Sibenico among his other papers, *Leunclavius* * took the greatest part of his work, known by the learned under the name of *Codex Verantianus*.

Having

* Leunclav. Hist. Turc. Lib. 1. p. 31.
Schmitth. Op. cit. in ver.

Having ended this last embassy so much to his honour, he returned to court, and was soon after rewarded for his labours; for in 1569 he was appointed archbishop of Strigonio, which is the first dignity in Hungary, after the king; and in 1572 he was likewise made viceroy. In this year Rudolph archduke of Austria was, by him, crowned king of Hungary; and his oration, on that occasion, in the name of the states of Hungary, was printed at Venice by Rampazetto. *Johannes Seccervitius* published in Vienna a panegyrick in Latin verse, entitled *Verantius*, to which various other Latin pieces, by German authors, are annexed; and *Giovan Murio Verdizotti* printed in Venice a poem addressed to the archbishop Veranzio, upon the naval victory obtained by the Venetians over the Turks the year before.* In the beginning of 1573, *Petrus Illycinus* also dedicated a theological work to him; and, no doubt, many other books were published under his auspices, as the good prelate was a munificent protector of all kinds of literature. But he now approached near the end of his laborious life. He fell sick at Eperces, where he went to assist at the comital assembly of the kingdom. In the beginning of his illness, he consulted the physicians, but finding it increase, he dismissed them, and waited for death with a christian and philosophic tranquillity. Men of letters lost in him a generous protector, the poor a charitable father, and Hungary, and all Christendom a consummate statesman. He died the 15th of June, 1573, a few days after he had received a very affectionate letter from Pope Gregory XIII. announcing his election to the dignity of a Cardinal, obtained by true merit alone. His funeral oration was pronounced by *Michel Duborozky*; and he was

* *Jo. Verdizotti oraculum pro magna navali victoria, &c. Ad Antonium Verantium Strig. Archep. Ven. apud Guerræos, 1572.*

was buried in the church of St. Nicholas of Tirna, where a suitable monumental inscription was erected to his memory. Besides the above mentioned *Belius*, *Leunclavius*, *Schmittius*, *Busbekius*, *Manutius*, and *Seccervitius*, many other authors have wrote in praise of this illustrious prelate; particularly *Bonfinius*, in his *Hungarian Decades*, *Istuamphius*, in his continuation of the same book, *Jongelinus*, in his *Catalogue of the Palatines*, and the author of the work entitled *Castrum Strigoniense aureum*, who celebrates him by a concise and expressive panegyrick.

Antonio was tall, and well proportioned, but of a delicate complexion; his countenance was open, and noble; he had blue eyes, a long nose, and a white beard, that reached down to his girdle. In his youth he probably felt the force of love, as it cannot well be imagined, that the many amorous verses which he left in manuscript were altogether fictitious. United to the beauty and dignity of his person, he possessed an eminent degree of eloquence, whereby he became acceptable to Princes of various countries, even in his younger days, and the same accomplishment could not fail to recommend him also to the fair sex. The mildness of his manners was truly the external image of the sweetness of his disposition; and the heroick patience which he exercised, during his stay with his uncle Statileo, was certainly derived from this quality of mind, and not from dissimulation or artifice. From hence it may also reasonably be concluded, that he must have received some very grievous offence from Queen Isabella, otherwise he would have persisted in his attachment to her. His dignity and riches served only to increase his magnanimity and beneficence, but never produced pride. One signal proof of his greatness of mind was, his spontaneous donative to the Emperor Ferdinand, of thirty thousand florins, which he had

had disbursed for paying the troops, when the treasury was exhausted. And so great was his generosity, that, notwithstanding his immense revenues, when he died, there was a necessity of selling the episcopal plate, and other moveables of value, to pay his debts. He had an extraordinary degree of penetration in political affairs; and it was always contrary to his opinion to declare war against the Turk, unless a previous well established and powerful league between the Christian Princes had been formed. Although he was continually employed in great affairs, he always retained his genial love for learning, and, in the midst of business, found some leisure hours for study. His manuscript works still extant are,

1. *Vita Petri Berislavi.*
2. *Iter Buda Hadrianopolim.*
3. *De situ Moldaviæ et Transalpinæ. Fragmentum.*
4. *De rebus gestis Johannis Regis Hungariæ. Libri duo.*
5. *De obitu Johannis Regis Hungariæ, Epistolæ ad Joannem Statilium Episcopum Transylvanum datæ dum idem Statilius in Gallia oratorem ageret anno 1540.*
6. *Animadversiones in Pauli Jovii Historiam, ad ipsum Jovium.*
7. *De obsidione, et interceptione Budæ, ad Petrum Petrowith.*
8. *Vita F. Georgii Utissenii, quæ pene tota perit.*
9. *Collectio antiquorum Epigrammatum.*
10. *Multa ad Historiam Hungaricam sui temporis.*
11. *Otia, seu Carmina.*

Michele Veranzio, the archbishop's brother, did not make so conspicuous a figure in the world. Not having patience enough to bear the abusive temper of his uncle Statileo, he lived sometime in Hungary, by no means at his ease, and at last returned

to

to Sibenico. But he wrote with greater elegance than Antonio, both in prose and verse. Tomeo Manavich quotes a work of Michel Veranzio concerning the Hungarian history of his own times ; of which, however, only a fragment relative to the year 1536, now remains. I believe nothing of his is printed, besides one elegy, among the Latin verses of Girolamo Arconati. But he left in manuscript several elegant poetical pieces, and an oration to the Transilvanians, whereby he endeavoured to persuade them to put themselves under the protection of the Turk, rather than become subjects to king Ferdinand.

Fausto and Giovanni, his sons, were recommended to the care of their uncle Antonio, for their education. Some school epigrams of the latter still remain ; he fell, when young, in battle. Fausto lived to a great age, and might have been rich and happy, had not his violent temper hindered his advancement, and kept him in a perpetual disquiet. He suffered much trouble by having imprudently engaged the court of Hungary in a dispute with that of Rome, concerning beneficiary matters. He died bishop of Canadio *in partibus*. We have, published by him at Venice in 1535, a small pentaglot dictionary, besides a volume in *fol.* entitled *Le Maubine*, published subsequently, and a very short logical treatise, under the name of *Giusto Verace*. On account of this last treatise, our author entered into correspondence with two very famous men, F. Tommaso Campanella, and the Archbishop *de Dominis*. There is, of the first, among the *Chartæ Verantianæ*, an autographical censure of the said logical treatise, and another of *de Dominis*, principally on the same subject. Fausto wrote a great deal, and, among other things, a history of Dalmatia, which he ordered to be buried with him. His heirs respected this whimsical humour ; and

who knows how many valuable papers of the Archbishop Antonio perished in the same deplorable manner with those of Fausto? He died in 1597, and was buried in the island of Parvich.* Tomeo Marnavich made his funeral oration, and it was printed at Venice the same year. *Carlo Veranzio*, Fausto's nephew, left no works either printed or in manuscript; but he was a patron of learned men, a great collector of books, and an intelligent antiquary.

Besides this celebrated family of the Veranzii, Sibenico may also boast of several other men of no inconsiderable merit, and whom I shall now briefly mention. Giovanni Tomeo Marnavich was born in 1579, of low parentage, though afterwards he pretended to nobility, and affected even a royal origin; which foolish vanity cost him many mortifications. He was educated by the Jesuits at Rome, and in 1603 had compiled a large manuscript volume *De Illyrico, Caesaribusque Illyricis*, which is still extant, though somewhat mutilated. In 1617 he was in the service of the bishop of Canadio, on whose death he published the oration above mentioned. This man having access to the Veranzian papers, probably appropriated them to his own use. One clear proof of this is his plagiarism of the life of Pietro Berislavo, which he published in 1620, adding nothing of his own, but a few periods to make himself appear a kinsman of Berislavo, and suppressing the few lines that discovered the true biographer Antonio Veranzio. Of the many things published by Marnavich, the best is a dissertation *Pro sacris Ecclesiarum ornamentis*,
et

* Besides the books already mentioned, Fausto Veranzio published at Rome *Život nikolika izabranih diwiicz.* 1606, in 8vo. And left a manuscript volume, entitled *Regula Cancellariæ Regni Hungariæ.*

et donariis, contra eorum detractores, Romæ 1635, 8vo. He was then bishop of Bosna. A few years before, he published a legend of Illyrian saints of royal lineage, with this title, *Regiæ sanctitatis Illyricanæ fecunditas*, in 4to. 1630. And, among his other saints, he places the Emperor Constantine, whose title to sanctity every body is sufficiently acquainted with. The other works of Tomeo are not worth mentioning.

Jacopo Armolufich, a creature of Carlo Veranzio, left many manuscript verses, and published a little book at Padua, in 1634, entitled *Slava xenska sprotoni odgover Giacova Armoluficbia sciben-canina cuitu sestomus*, in 4to.

Guarino Tihich, or Tranquillo, lived in the beginning of the xvth century, and left some poetical manuscripts on sacred subjects.

Pietro Difnico, cotemporary with the two Veranzii, wrote some poems in the Illyrick language. There have been other learned men of the same family, but I could not find any memoirs about them. Of this Pietro I shall have occasion to speak again, and also of Giovanni Nardino, who wrote, in elegiac latin verses, *the Praises of Sibenico*, a subject that was likewise treated by Giorgio Sisgoreo, whose work is quoted by Tomeo, but I could not find it.

Pietro Macroneo of Sibenico, Canon of Scardona, though mentioned by me after those others, lived in much earlier times. Several of Macroneo's compositions were found among the MSS. in the possession of Lawrence Firenczfi at Vienna, in 1634, and
he

he flourished fifty years before that time. One only of his works, and a very whimsical one, is printed, intitled *Controversia Lyaei, atque Tethidis*, Vien. 1634. It is a medley of scripture passages, parodied, to carry on this controversy, which, nevertheless, is treated before the tribunal of God. Perhaps Macroneo composed it in earnest; but, in our times, such a mixture of sacred and profane would carry rather too burlesque an appearance.

Martino Rota, a painter and engraver, was also born at Sibenico; and there still remain several of his prints, among which are various chorographical maps of Dalmatia, not exact, yet of some use. Two of the three prints of Antonio Veranzio, which are preserved in the family of the Counts Veranzii, were engraved by this artist.

Andrea, known by the name of *Schiavone*, was also born at Sibenico, of very obscure origin, but an excellent painter, whose works are held in high esteem by the lovers of that noble art, notwithstanding the disadvantageous judgment that Vasari is pleased to form of them.

Of the Port of SIBENICO, and the Lake of SCARDONA, and of some ancient Customs.

The harbour of Sibenico is large, and one of the most beautiful that can be seen, by the variety of hills, and little promontories that surround it, and form a kind of theatre. The city stands on the water-side, extending along the lower part of a hill, and flanked by the rugged hills called *Tartari*, which are covered by the gravel of ancient rivers, hardened into *breccia*.

The

The river Kerka, after entering into the lake of Scardona, forms a new channel for itself among the rocks, and running three miles further with a gentle course, forms a second lake below Sibenico, six miles in length, and then falls into the sea, through the narrow strait of St. Antonio. The Romans had a settlement between the mouths of the two rivers Goducchia and Jujova, both which fall into the Lake of Scardona; however, the vestiges are now scarcely perceptible, and yet they merit some attention, because they afford a manifest proof of the rise of the waters. The mosaic pavements, and the divisions of the ruined chambers, are, at least, two feet under the ordinary level of the lake, which ebbs and flows according to the tide. There is also a long wharf under water, which joins the point of the peninsula formed by the two rivers to the isolated rock *Sustipanax*. On this rock there is a ruined church, which, in other times, perhaps, was a temple of the Gentiles. In a map of the territory of Sibenico, done by the above mentioned Martino Rota, 1571, are to be seen several habitations, posterior to those of the Romans, and situated on the point, which extends itself within the lake, between the two mouths, and is called *Raxlina*; which spot is now quite desert.

Among the poetical compositions of Difnico there is an elegy on Sibenico, wherein are various articles relating particularly to the natural history of the waters of that neighbourhood. The following is a passage of that old poetical naturalist, and, such as it is, I should think it wrong to suppress it.* “The
“ river

* The original Illyrick.

“ river Kerka, says he, whose perennial current bathes the foot
 “ of the city, has an island, in which hail never falls. This
 “ river issues rumbling on every side, from dropping caverns,
 “ where marble is produced; and crouds of people go there,
 “ to see the prodigy or its waters changing wood into stone.
 “ To the, O! Sibenico, this river brings eels, the flesh of which
 “ produces no malignant fever, and before it falls from its great
 “ cataract, the exquisite trout is found, that feeds on gold. Fierce
 “ dogs inhabit along the banks, which growl at the Turk and
 “ his subject Morlacks only, and are ready to tear them to
 “ pieces. The marshy lake supplies from seven to seven years,
 “ vast numbers of eels for our use. The crabs likewise with a
 “ hundred feet, called *Schille*, of a palms length, swim before
 “ us. The crowned *Dentice* are found of more exquisite taste
 “ near this city than in any other place. And it is but just
 “ that these do honour to the situation; for here the most noble
 “ fishes of the sea meet, in shoals, to pay their court to the
 “ king, wandering about in their pasture; and sometimes the
 “ fish that inhabits the sand, comes tamely upon the dry land.
 “ But a more wonderful creature was once seen here, for a
 “ marine unfociable man was caught. The sea nourishes for
 “ us near its whirlpools, the *Kotoragne* * remarkable for their
 “ large size; and its rocks underwater are so rich, that branches
 “ of coral grow on them. Far from the sea within land, we
 “ have salt waters where salt is crystalised. The fame of the
 “ noble sweet juice, obtained by incision on the island of Srim-
 “ cane, (*a*) is spread over the world; and the continent pos-
 sesses

* I found no body at Sibenico who knew what kind of fish this *Kotoragne* is.
 The general dialect of this poem is not understood there, and resembles none of
 those now used in Venetian Dalmatia.

“ fesses still more glorious qualities ; for there the manna falls
 “ in honied dew. There the women boldly dare to cut the li-
 “ gaments of their fœtus, which lives notwithstanding and walks
 “ (b). And here those who were wounded in the head, and
 “ whose brain was cut afunder, have lived a year and a day
 “ after.”

Among the particularities of Sibenico mentioned in this curious piece, *the marine unfociable man*, that was taken, seems to me worthy of observation. Of the two species of manna taken notice of by the writer, the first is certainly that which proceeds from the *fraxinus*, by means of incision, as is practised in the proper season in Calabria, Apulia, the *Maremma* and Provence : but this is fallen into disuse in Dalmatia. The other is probably that farinacious substance united with the dew, which is annually gathered in the neighbourhood of Cracow, and makes a small article of trade between that city and Warsaw. We have something of the same nature, in the months of August and September, at Cartila near Este in the Paduan territory.

Pietro Dinfico took the greatest part of those hints of natural history from the manuscript elegiac verses of Giovanni Nardino, Canon of Zagabria, some of which are also inserted in a manuscript work of Tomeo Marnavich, but not expressed with a scrupulous nicety, in the illyric paraphrase. Nardino takes notice of the produce of manna, and of the coral fishing thus :

*Manna solo, Sibenice, tuo fœlicibus astris
 Ambrosias tribuit, nectareasque dapes.*

The

The coral trade must have been well established in that age at Sibenico, as these verses prove :

*Hæc quoque florescit speciosis unda corallis,
Qui dices Indos, antipodosque petunt.*

This author, among the many other advantages which he attributes to his native country, mentions two singular customs, one of which is still kept up. The following are the four verses in which they are described :

*Sic trino dicata Deo dum festa refulgent
Civis in hac sceptrum nobilis urbe tenet.
Hic prius ostenso celebrat nova nupta Priapo
Connubium, et socias porrigit inde manus.*

The King of Sibenico is elected before the Christmas holidays, and continues fifteen days. I was not there at that season, so only mention this from hearsay. He has the marks of royal authority; such as, the keys of the city gates are brought to him every night, while his mock reign lasts; he has a distinct seat in the cathedral, and is judge of the actions of those who compose his ephemeral court. It is no longer a gentleman who makes this burlesque figure of king, but an ordinary peasant. Yet he has a good house assigned for his lodging; walks through the city crowed with corn spikes, cloathed in scarlet, according to the fashion of the country, and attended by many officers. The governor entertains him at dinner, as well as the bishop; and whoever meets him in the street bows to him. The suburb towards the land, as well as that towards the sea, has each their king, but they cannot enter the city without permission from the city monarch.

I did

I did not think it requisite to inform myself much concerning those preliminaries of marriage indicated by the canon of Zagabria, who, no doubt knew perfectly well, that this prudent usage was then in force, as he is reputed a diligent observer of every thing relative to his country. If I could have found the MS. work of Georgio Sifgoreo, which treated of *the most noble prerogatives of Sibenico*, written about the year 1500, no doubt, I should have been able to extract much intelligence, not only in regard to ancient customs now fallen into disuse, but also to the physical history of the country.

Of the Fishing of the Lake, and the Fossil and Submarine Productions of the PORT of SIBENICO.

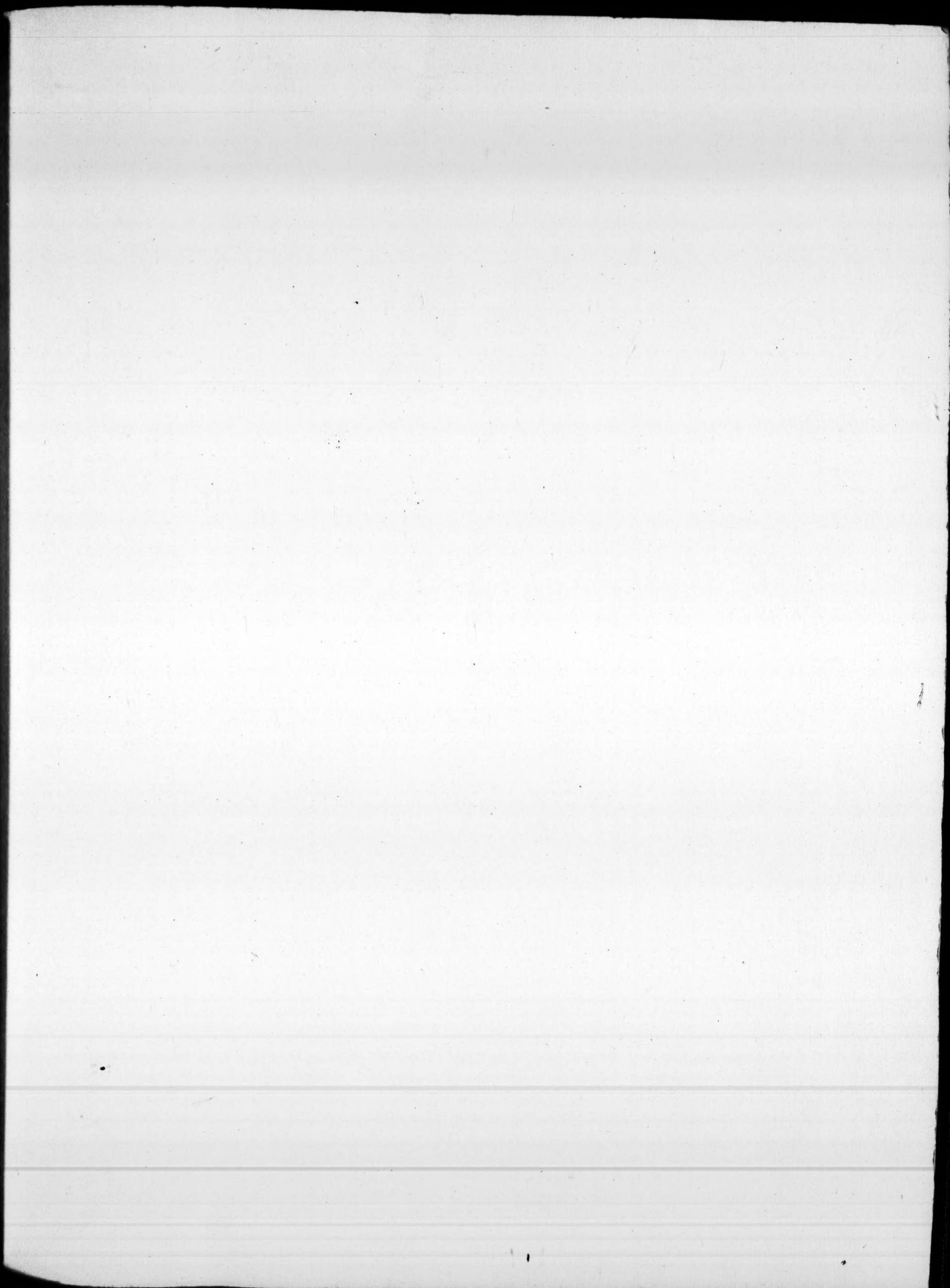
The lake of Scardona is altogether surrounded by hills of gradual ascent, and susceptible of the best cultivation; but they lie for the most part abandoned. Nor is the fishing practiced in a better manner than agriculture in these parts, although they are frequented by tunny, and other smaller emigrating fish. The fishermen attend to little else besides the daily provision of suitable fish, for the tables of the inhabitants of Sibenico and Scardona. *Lizze, Palamide, Dentici, crowned Orate, Triglie*, eels, and many other species of fish of equal goodness are caught in these waters, but by a very ill contrived and slovenly method. The *Schille*, a palm long, mentioned by Difnico, is common in the lake of Scardona, and the bay of Sibenico, are truly a delicious morsel. They have no regular fishing for eels, though the marshy river Goducchia, certainly produces a great plenty; and, no doubt, the same plenty might be found in the muddy parts of the lake, near the city of Scardona.

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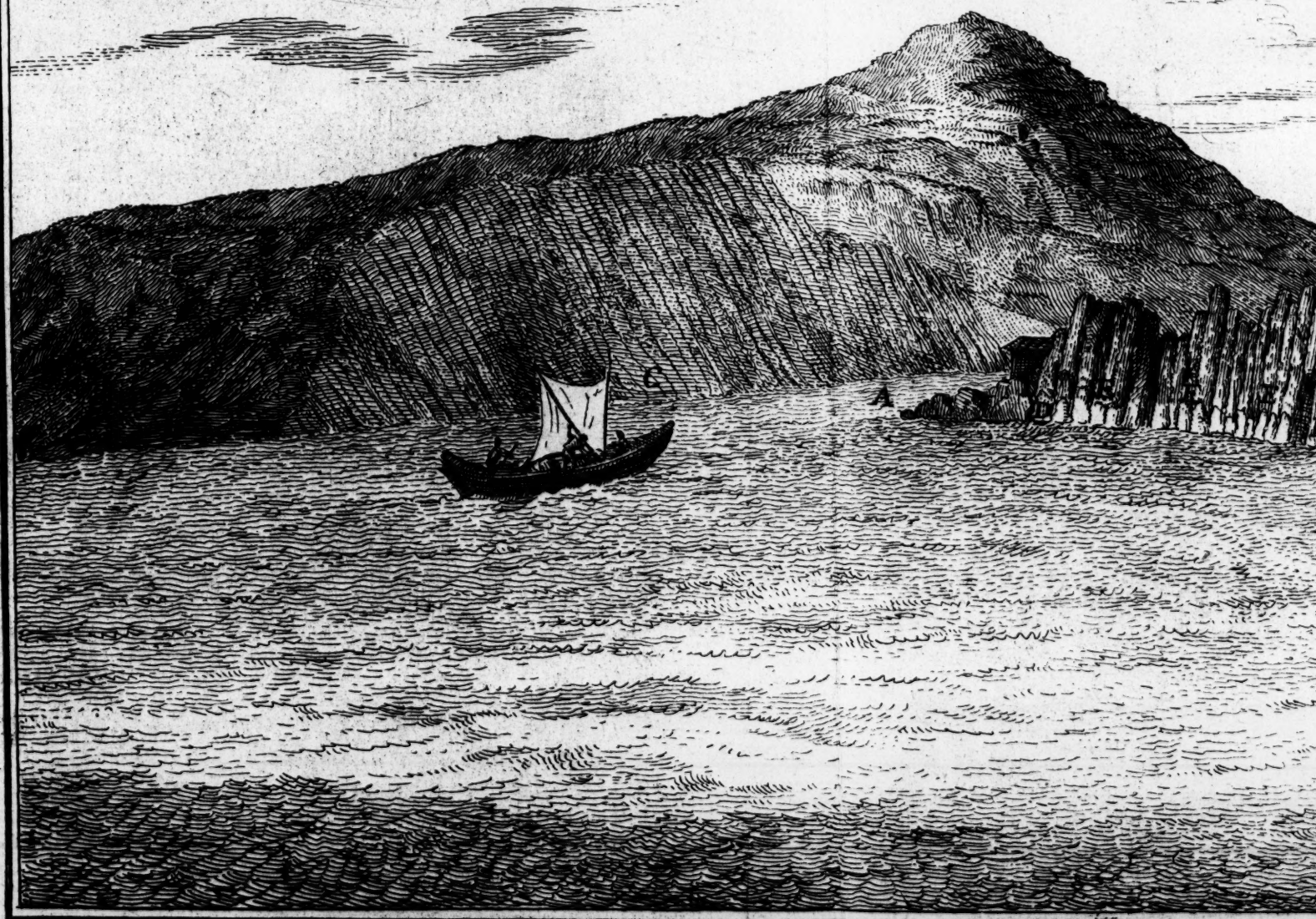
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All the sides of these internal bays are of marble, and all nearly of the same kind of substance. The common Dalmatian marble prevails, sometimes more, and sometimes less full of fistulous and broken pieces of testaceous bodies; often divided into horizontal inclined strata, and sometimes also subdivided vertically. I had a drawing taken of one of the most remarkable places on that shore, called *Suppliafina*, which means *perforated stone*, (P. VI.) and takes its denomination from the hole B, formed in the top of the naked rock, and passing quite through it. There is not, perhaps, on all the coasts of Dalmatia, nor within land, neither do I believe, among all the mountains of Italy, which I have visited, a single spot better calculated to convince a person prepossessed by the false opinion of the existence of calcareo-marine vertical strata, improperly so called, in their natural position. The small promontory stretches into the canal A, which extends itself towards the lake of Scardona. On the opposite side are seen the fallacious appearances of the veins C, almost perpendicular; but on examination, the line EEEE is discovered, constituting the primitive division of the strata, and confirmed by the difference of the substances lodged in the marble. Other similar lines are discoverable higher up; and that which manifestly shows the different origin of these and the vertical lines, is, that the first are scarcely visible, and rarely discontinue the solidity of the mass; and the second are evident fissures, sometimes narrower, and sometimes broader. The channel of St. Antonio, that leads from the port of Sibenico to the sea, likewise exhibits a singular appearance of strata worthy of observation. For the divisions of the marble side, are at first much inclined towards the internal promontory of the port; then they become, by little and little, more erect, till they are quite vertical; and at last, all

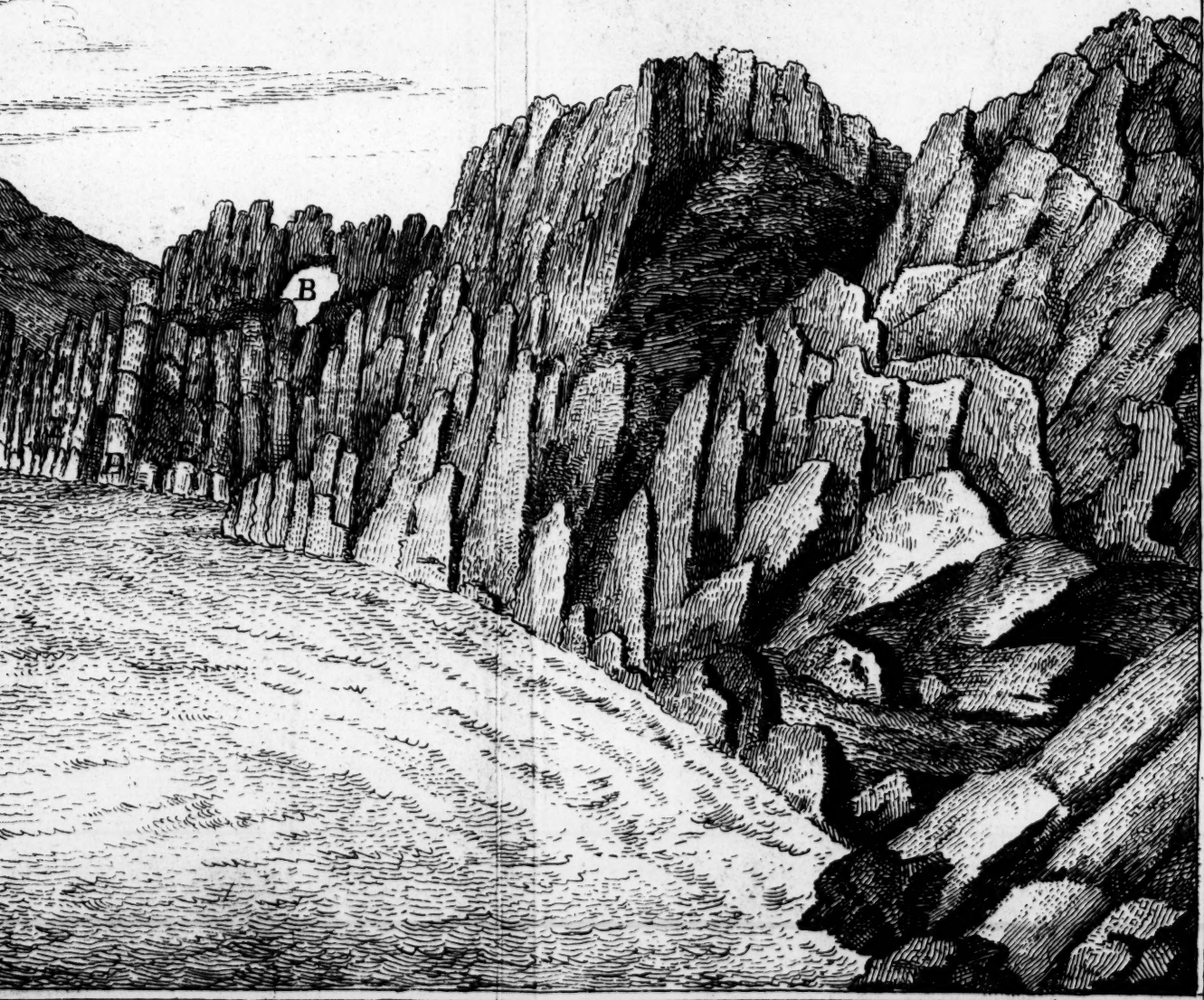
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A View of SUPPLIA-STINA in the Har



The Harbour of SEBENICO.



Jac. Leonardis sc.





at once changing their nature, they become sinuous in the most extravagant directions. It is not easy to give a satisfactory explanation of this phenomenon, if we will not believe it to proceed from the various motion of the waters of that ancient sea, which successively dashing together the component parts of these calcareous strata, carried them, sometimes in one, and sometimes in another direction, according to the currents and storms prevailing at different periods.

The marble shores of the port of Sibenico, in many places, shew evident marks of dislocation, which possibly may have been the consequences of some violent earthquake. The grotto of St. Antonio is remarkable enough; for its vault is formed of the angle of two pieces of the hill, which, in falling, were joined together. The long hanging rock is also observable; it stands on the little peninsula *Delle-fornaci*, near the city, and extends near a mile in length, in a direction opposite to the sea, on a base of a tenacious barren earth, of a bluish colour, and marine, but without testaceous bodies. The *Frumentarii* which are confined in the hard stone, are the only distinguishable species of fossil bodies to be seen on that spot.

I made a trial of fishing for marine productions in the greatest depth of the canal, or strait of St. Antonio, making use of a boat, and coral fishing tackle; by which means, we drew from the bottom, various pieces of that stoney crust, which in many places forms itself at the bottom of testaceous fragments, sand, and mud concreted together. Every one of these pieces extracted, appeared to me an island peopled with submarine beings. I examined hastily the red *oloturii*; also the red and arborous sponges, and other congenerous Zoophytes; some of

them described, and some still but little known to naturalists. But the want of time, and proper means, and the particular season hindered me from examining with due attention these various objects. I discovered also, on the same fragments, many other living animalcules of a viscous nature; parasitical insects, naked worms, *escharæ* and *fungites*, inhabited by their polypes; of which, I hope to write more particularly on a future occasion. I shall, however, attempt to describe to you, as well as I can, a new species of *Terebratula*, which hitherto I have not found in the books of the marine conchiliogy. Baron de Hupfch alone has given a figure, that resembles it much, in plate IV, No. 16, 17.* by the name *Concbites anomius Eisliaco-Juliacensis perulam referens*. He believed, and with reason, that the original of the petrification found by him in Eifel, in the Duchy of Juliers, was not known.

Although the *Terebratula* does not correspond identically with those figured by Hupfch, I am inclined to believe it the original of his, and the rather, because I have observed, that there is some difference of configuration between one individual and another of these in my possession. The most regular, is that which is represented fig. 1. p. VII. It has gibbosities both in the under and upper shell, and is substriated lengthwise as well as across. Just in the middle of the *ginglymus*, by which the two unequal valves are kept united, there is a hole through which the foot of the animal passes, and serves to keep it fast, as it were at anchor, on such bodies as suit it best; in the same manner as is observed in the lower valve of all

* *Nouvelles decouvertes de quelques testaces petrifies rares, & inconnus, &c.* par J. G. C. A. Baron de Hupfch, a Cologne, 1771, in 8vo.

all the *ostrea* and *pectens** before they have acquired sufficient strength to live without support; so it is also with the *conchæ anatiferæ*, the *Patellæ*, and several species of *Turbines*. There is no doubt, that the progressive motion of the *Terebratula* of Siberico (if it has any) depends entirely on the use of this foot. The fig. 2, is much more like the *Peridiolites* of Hupfch. The internal formation of this shell of mine is also singular, and deserves to be described to the naturalists, who probably have not had occasion to examine it. In its natural state, I did not think it so worthy of observation, as it appears when dead and desiccated. See it in fig. 3, but do not imagine it is endowed with so much force, as to be able of itself to lie thus expanded; no, it is furnished with sufficient support by means of an elaborate testaceous forked appendix, which grows out of the posterior extremity of the cover, as represented in fig. 4. It would be worth while to examine, if many of the fossil productions of lower Germany do not agree with originals living in the deepest abysses of our sea. Who knows if thereby the number of petrifications derived from testaceous shells, and the labours of Polyopes not known, might not, by degrees be lessened? The Siberico *Terebratula* was taken from a depth of a hundred and eighty feet or more; and in the caverns, from whence the coral is fished, the *Terebratulæ* are found much deeper. I saw one of them shut up within the coral substance which had grown over it.

Of

* This species of testaceous shell is found, when young, adhering to stronger bodies of the same kind, by means of a foot which passes through a little hole, left by provident nature at their production from the egg. Among the fossil *pectens* found in the hills of *Borgo San Donnino*, I have frequently met with such as had little ones on their back; and nothing is more common in our sea.

Of the Village and Valley of SLOSELLA.

The first place of the territory of Sibenico, that one meets with on the Side of Zara, is the village of Slosella, situated in a large valley which bears that name, and defended by a thick wall on the land side. The inhabitants say that the denomination of Slosella, which is equivalent to *Malvillaggio*, i. e. curst village, was given by the Turks in the times of their incursions, because they found the inhabitants bold, and always ready to oppose them. But whatever may have been the original of this name, it certainly suits the inhabitants extremely well. I staid there many days, availing myself of the friendship of the Abbè Count Girolamo Draganich Veranzio, to whose illustrious family the village belongs; and hence I had a better opportunity of observing with convenience here, than in other places of Dalmatia.

The ground of Slosella affords nothing worthy of particular observation; it is generally of marble, which is frequently cavernous, and full of stalactites. The external aspect of the country is horrid, on account of the nakedness of the mountains, which are intirely spoiled by the inconsiderate brutality of the inhabitants. Nor has the plain that stretches along the sea, any degree of amenity; for, through their obstinate stupidity in agriculture, the vines, olives, and cornfields are all equally ill managed. The lands cultivated by Count Veranzio only distinguish themselves at a distance, by the chearful green with which they are covered, as do likewise the few woods that remain, and of which he has the sole disposal. He is endeavouring to encourage the growth of his young *fraxini*, by rooting out the brambles and shrubs scattered among them, that they may the sooner be

be ready to yield manna by incision. It is very probable that these attentions will prove successful, as the situation is perfectly suited to every product of warm climates. I made some incisions on the *Lentiscus*, and though the trunk of the tree, on which the operation was tried, was not large, and it was surrounded with thorns, and parasitical plants, yet it yielded some mastich, little indeed, but enough to shew its excellent quality. There is great plenty of *Lentiscus* about Slosella; but the inhabitants cut and destroy all sorts of trees, and shrubs, without distinction, for firewood and other uses, so they never have time to grow to an age requisite to give any considerable product.

The many streams, which issue from the bottoms of the mountains, and mix with the salt waters of the valley of Slosella, invite thither a great number and variety of fishes. I did not inform myself minutely of the adventitious species found there, and hence, perhaps, you will blame my negligence and inattention. But the chief object of my attention was that species alone, whose passage is copious and constant, and therefore deserves some consideration from government, as an object of national œconomy and commerce. I wish it was in my power to declare war against the northern fishes which invade our Italy, as the men used to do in the barbarous ages; and should think myself happy could I arm the fishermen of the Adriatick against these foreign intruders. Every season brings shoals of fishes to the valley of Slosella. In the cold months, and particularly in the sharpest days of winter, vast numbers of mullets crowd thither, allured by the warmth of the fresh waters, which, springing from the bowels of the mountains, mix themselves with the sea before they have suffered the impresson of the rigid air. The inhabitants of the neighbouring villages, at these seasons, meet, bringing
with

with them a sort of net, called by them *frusati*, or *frights*, of a breadth and depth adapted to these shallow waters. The noise and confusion they make by beating the water with their oars, sticks, and stones, frighten the mullets; and in flying towards the sea, they fall into the nets; or by seeking the surface the moment they feel any obstacle, the peasant fishermen stand ready prepared with various instruments, and kill great numbers of them. The spring brings into these waters the *Xutizze*, or dove fish, of the ray genus, but of a more firm and fibrous substance; and in summer the sardines and mackrel come in shoals. Yet notwithstanding the great plenty and variety of emigrating as well as other fish, the lazy Siosellian neglects every means of profiting by them: he is contented if he can find provision for the day, and often devours, without bread, or any sort of sauce, all the fish he has caught. The cuttle fish is the universal food of these idle inhabitants, during the spring season; and they catch them, by laying under water the branches of trees with their leaves, to which the fishes adhere, in order to leave their eggs. If any greater or more complicated labour was needful, I believe they would rather chuse to want food than to perform it. For to such a degree do they hate their own advantage, as well as that of others, that to thwart the introduction of drag nets, though made by their own landlord, they scattered large stones over the shallow parts of the valley; notwithstanding that, by the exercise of these nets, many men of their own village were to have been daily employed. In general all the peasants along the sea coast, are equally lazy and malicious; perhaps because they are too much protected by the laws, and put on an equality with their masters. Yet it appears very plain to me, that subordination is absolutely necessary to render these maritime people happy; and in some cases, even forcible and violent

olent methods would prove very useful to rouse them from their habitual indolence. But the inland people require a very different treatment, as their dispositions and tempers are quite contrary, and by mildness and lenity, tempered with a proper degree of authority, they may easily be brought to do any thing for their own and for the publick good.

Observations on the ANDROSACE.

Among the many subaqueous productions of the valley of Siofella, the *Androsace* merits particular observation; it was reckoned among the plants by *Vitaliano Donati*, and among the Zoophytes by *Linnaeus*, who named it *Tabularia acetabulum*. I will not, at present, declare to which of these opinions I am inclined, because I am not yet sufficiently convinced about the point in question, and believe it necessary to examine the *Androsace* at different seasons, before a decision can be given. But I will confess to you, that, having carefully examined, with the microscope, both fresh and dried specimens, I could not discover evident characters of a Zoophyte. On comparing the observations of Donati with these specimens, taken from various parts of the valley of Siofella, and particularly from the rock of *San Steffano*, I added to the margin of his book the following annotations: 1st The *Androsace*, which, according to this author, *very rarely in our seas rises to above an inch and a half*, is found to exceed three inches all around the above mentioned rock, where it grows almost to the surface of the water. 2. The filaments that rise from the concave part of the fungiform top or crown of the *Androsace*, far from being *so minute and delicate that they cannot be discerned even by the microscope, unless when the Andro-*

U sace

face is in the water, where they appear soft, and of a silver colour, extending as far as the circumference of the crown;* are, on the contrary, so visible, that, without the help of a microscope, I could discern them, and perceive that their colour was not inclining to silver, but, rather, to that of cinnamon. Moreover their length exceeds so considerably the circumference of the crown, that, out of the water, and gathered in a bundle by themselves, I could make a drawing of them, as you will see in Fig. V. a. (P. VII.) and which represents an *Androface* irregular in the circumference of the crown itself. 3. I found some *Androsaci* in which the filaments could not be discovered, and from the centre of the crown a kind of *pistillum* arose. Expecting to find another opportunity of observing them more accurately, I neglected the first specimens, which I had collected in the month of August, and I had it not in my power to meet with them again, being obliged to proceed on my journey far from Siofella. 4. The *Androface*, sometimes, has two crowns, one above the other, as in Fig. vi. and sometimes (but much more rarely) I have found it dichotomous, as you will see in Fig. vii. The only specimen of a dichotomous *Androface* that I was able to preserve, during my long travels, was spoiled here at Venice, though after I had had the pleasure of shewing it to several lovers of natural curiosities. Some of those with two crowns, which, though less rare, are not frequent, remained in entire preservation, and I placed them in the collection of our learned botanical friend Dr. *Antonio Turra* of Vicenza. And if I return into Dalmatia, which is not improbable, I hope to be able to give a more exact anatomy, and a better drawing of the *Androface* than that of *Donati*.

Of

* Donati and *Saggio di storia naturale*, &c. p. 30 31.

Of the little Island, or Rock of St. STEFFANO.

There is plenty of *Androsace* in the fish ponds at the foot of the rock of St. Steffano, which serve for the use of a few poor friars who inhabit it; and, besides the *Androsace* there are various species of marine insects, which deserve particular attention; some of them swim about in the water, some adhere to the stones, and others shelter themselves among the *ulvæ*, *virisoidi*, *fuci*, and *conservæ*. I collected there a small species of a rough pentagon stella, agreeing with the *Asteria aculeata* of Linnæus; the *Oniscus aspillus*, various *Buccina* and *Purpuræ*; *Mituli*, whose valves do not coincide; the *Ostrica Lima*; two different *Chytens*, one faciated, another only variegated; small *Nautili*, and *Serpole lombricali*, besides many other species, that are every where common in our seas. There are many fragments of Roman tiles and urns scattered about this rock; many inscriptions have also been dug up, but they were broken by those barbarous friars, to pave their wretched court. The remains of an inscription in bronze are still to be seen thrust into a wall; the letters, as you may imagine, have been taken away. It is probable that this rock was a burying place, according to the laudable custom of the ancients, who, more reasonable than us, interred their dead bodies at a distance from habitations, that the dead, at least, might cease to hurt the living.

Of the Island of MORTER.

Three miles beyond the rock of Steffano lies the island of Morter, which the writers of Sibenico of the xvi century believed to be the *Colentum* of Pliny, alledging, as a proof of their opinion, its distance from the mouth of the *Tizio*. I thought proper to visit this island, where certainly there was, in ancient times,

times, some settlement either Greek or Roman ; but few or no vestiges of any large town are now to be seen. Indeed, the only marks of ancient habitation are some old tiles, fragments of vases, and some hewn stones, among which I observed beautiful pieces of a cornice, which must have belonged to some magnificent and well built fabrick. Ancient coins and inscriptions are frequently found ; but the suspicious temper of the inhabitants renders a search for such antiquities very difficult. I would have been glad to have had it in my power to dig up some inscription that ascertained the city of *Colentum*. The people of the island told me, that, not many years ago, there were some remains of a wall on the top of the hill ; but they were carried away to build a church to the Madona of *Gradina*. Whatever name this island went by in former times, its situation is certainly beautiful and delicious as any can be. The hill rises gradually, and overlooks an arm of the sea, full of little islands and promontories, extending the prospect from its top to a part of the hills in the territory of Zara, as far as the Bebian Alps. The small woody islands of *Vinik-Stari*, *Tegbina*, and *Mali-Vinik*, heighten the beauty of this situation. The whole island of Morter, which is thirteen miles round, is, for the most part, susceptible of cultivation, and under better management, would, no doubt, yield rich produce to its inhabitants. But its present inhabitants are a worthless people ; and it is observed, that, in every piratical boat of those parts, there is, at least, one of that island, who serves the robbers as pilot through all the passes, and as a guide to the most unfrequented creeks, and hiding places. The strait, that divides the island of Morter from the continent, is much frequented by small barks and boats, especially in the stormy seasons, when the navigation in the open sea is too dangerous for them. In consequence of this passage, there

there is, on that side of the island, a large village of well built houses, several of which are inhabited by trading people, in easy circumstances; though, in that situation, the adjacent rocks, the opposite continent, and the marble hills of the island itself, are quite bare, and afford the most frightful barren view. The marble of this island, and of the lesser ones contiguous to it, is full of marine bodies, which, probably, belong to the genus of the *Orthoceratites*; in some places it is pierced by *Phalades*, which grow there to a size that surpris'd me, some of them exceeding four inches in length.

The proprietors of the land on the island of Morter, reap very little advantage from it; their tenants do not think themselves obliged to give them more than the fifth part of the wine they make, and nothing of any other product. Hence the vine is but little cultivated by these malicious peasants, and the olive is preferred, though subject to more accidents than the vine; or the land is left for pasture. The want of discipline and subordination among these peasants, now, in a manner, confirmed by a combination of other unhappy circumstances, render any attempt of the proprietors to recover the least part of their right, extremely dangerous. Agriculture also suffers the bad effects of this vicious constitution, which took its rise in the calamitous times of contagion, or of irruptions of barbarians; and it would be a desirable event, if, in this happy age of peace and advancement of national good, a suitable remedy were applied to this disorder.

Fishing is not much minded by the Morterines, though; in the canals near their island, the tunny often passes in large shoals, and many lose themselves, and stay the winter, particularly in
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the shallow water, near the hamlet of Ramina, where formerly there were salt pits. The principle occupation of the *Bettignani* who inhabit the western extremity of the island, is to gather, macerate, spin and weave the *Genista*, which they go to fetch even from the coast of Istria, and the islands of the *Quarnafò*. They make cloth of this plant, of various kinds, which sometimes is used for making sacks, and sometimes shirts, and petticoats. Doubtless, if this art was exercised in a less slovenly manner, much better manufactures might be derived from the *Genista*. The sea serves them for macerating the twigs.

Of TRIBOUHUG, VODIZZA, PARVICH, ZLARINE, and ZURI.

After passing the strait of *Morter*, the first inhabited place on the Continent is *Tribouhug*, or *Tribouoni*, an isolated village, ugly and miserable, surrounded by a wall, and joined by a stone bridge to the shore. Towards the end of the last century *Pappizza*, a peasant extempore versifier, was born here; he is still famous for the number of verses which he used to sing, accompanying them with the *Guzla*; but I could no find any thing of his in writing.

The village of *Vodizza*, little more than a mile distant from *Tribouhug*, has taken its name from the abundance of water found every where about it; for *Voda*, in all the Slavonian dialects, signifies *water*. It cannot be said that *Vodizza* abounds with springs; but there is a subterraneous river, not so large nor so deep as the wells of Modena, though of the same nature. It runs between the strata of the littoral marble, and, at high tides, its water is not wholesome. In whatever spot thereabouts they dig a well, the water is found at the same depth

depth and with small expence. The appearance of the people that I saw at church, did not indicate riches: yet the land of Vodizza, as far as I could discover about the habitations, is not bad. The ascent from the shore is easy, and just sufficient to preserve the lands from being overflowed by the waves. Several well cultivated little islands form a delightful prospect from this village. One of its most considerable products, as well as of Tribouhug, are the *Marasche* cherries, of which, by distillation, they make *Rosolio* at Zara and Sibenico.

Parvich, *Zlarine*, and *Zuri* are the best peopled, and most considerable islands under the jurisdiction of Sibenico. They contain a great number of fishermen, as well as industrious labourers of the land, who cultivate both the vine and the olive to great perfection. These three islands send every year, in the fishing season, forty large nets out of their different ports, and, by the plenty of fish they catch, provide a comfortable livelihood to a great number of families. But it remains to be wished, that the buyers of their salted sardines, mackrel, mullet, &c. brought them to market at Venice; we might then exclude a great part of that stinking and unwholsome fish, which, since the beginning of the present age, the Hollanders bring us, year after year, in greater quantities, and which serve to poison the poor tables of our peasants. I staid several days on one of these islands; and the hope of being able to do some service to my country kept me occupied with that object much more than with the search of natural curiosities, that perhaps the sea might have furnished me with. But I will not detain you on this subject, as such details are rather calculated to interest the economy and political views of the government, than for learned foreigners. All these three islands were inhabited by the ancient Romans;

mans; and in each of them, are found monuments of that nation which over-ran the then whole known world. At Zlarine there was dug up, in the 16th century, the sepulchral marble of a woman called Panfiana, with the title of queen. The learned of those times, who were numerous in the neighbouring city, made many fruitless researches about the country from whence that lady came thither; and finding no vestige in history, they conjectured, with great probability, that she must have been some barbarous queen, who, after serving to embellish the victor's triumph, was banished to that island to finish her days. I could not find the inscription, nor indeed any other traces besides those which the manuscript memorials of those times furnished we with.

Parvich, though of small circuit, is extremely fertile. Every product succeeds in perfection there; I mean those products of which a very shallow ground is susceptible; such as wine, oil, mulberry trees, and fruit. The aspect of this island is also very pleasant at a distance, whereas that of the others adjacent disgusts the eye, by their too high, rocky and bare hills. The name of *Parvich* seems to have been given it because it is the first one meets with on going out of the harbour of Sibenico; for the Illyric word *parvi* signifies *first*.

The island of Zuri is mentioned by Pliny under the name of *Surium*; and it seems that Parvich, and Zlarine, with many other smaller islands, to the number of fifty and upwards, are collectively called by him *Celaduffæ*, plainly inverting the Greek word *δοσκελαδος*, which means ill-sounding, or noisy. The text of Pliny, if the common reading is followed, contains a notable blunder in chorography; but this may be easily rectified by a slight

slight change in the punctuation, and read thus: *Nec pauciores Trucones (Insula) Liburnicæ. Celaduffæ contra Surium. Bubus, et capris laudata Brattia* *. Zuri is, in reality, more exposed to the sea than the others; and opposite, between Zuri and the continent, are *Kaufuan, Capri, and Smolan*, which name indicates the ancient custom of making rosin there. *Tibat* is inhabited only by shepherds; *Sestre* are small islands remarkable for an excellent quarry of hard white stone, which might be used at much less expence, and would be much more durable than the Vicentine stones. *Parvich* and *Zlarine* are cultivated and populous, besides many other smaller islands. The dress of the women of these *Celaduffæ* is different from that of the females of the *Trucones*, or islands of the canal of *Zara*.

But the remains of Roman habitations still to be seen on the island of *Zuri*, serve not near so much to distinguish it as its coral fishing, which is never inconsiderable in the waters around it, and, thirty years ago, was of immense value, by means of a very fertile bank then discovered. A lover of natural history, instructed by the example of your celebrated Count Marfigli, would make many valuable acquisitions, and curious discoveries by fishing in the depth suited to the multiplication of coral, and could not but wish to live some months here in one of these coral boats. How many of the Testaceous tribe, still unknown, might not there be brought to light; and how many originals of petrifications, that are generally supposed lost or extinct species, might not fall into our hands? I conceived this wish very earnestly, but circumstances and reflections suffered me not to gratify it. Instead of being guided by my inclination,

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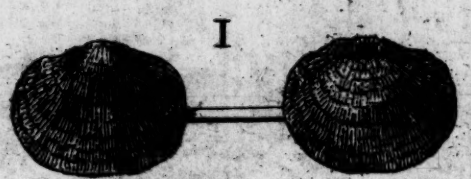
* Plin. Hist. Nat. Lib. III. cap. ult.

tion, I thought it a more prudent measure to seek a larger field of observation on the Continent, which would furnish a greater variety of matter.

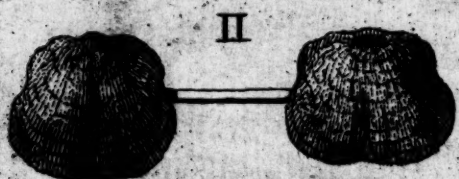
The coral fishing in our sea is carried on by subjects of the King of Naples, who are in the service of a principal, who farms that privilege. Our islanders, though frequently employed in the coral boats, have not yet been able to learn the wonderful art of extracting the coral from narrow and deep caverns under water. Yet certainly this art deserves particular encouragement. Corals form a rich article of commerce, even when sold in its natural form; and it is the more to be wondered at, that the art of fishing it is not well understood by the Dalmatians, considering how ancient the trade of it is at Sibenico.

Of the Lakes of ZABLACHIE, and MORIGNE.

In sailing along the coast from the port of Sibenico, the plain, with stony-lands of *Zablachie* are seen; and beyond them is the lake of the same name, which communicates with the sea, by means of a narrow artificial canal. In rambling over these grounds, I found spontaneous mastich drops hanging from the *Lentisci*, which the shepherds have suffered to grow, to shelter their flocks in the scorching summer's heat. The lake, before the beginning of this age, served to form very plentiful salt-pits; and several other lands thereabouts, subject to be overflowed by the sea, were employed to the same purpose. But now it is only a fish pond, and of very little consideration, as no care is taken to maintain and multiply the species. The only particularity, that merits observation, is, its sand full of small shells, of elegant structure, perfectly well preserved, and sometimes with the live insect. Some of these have hitherto
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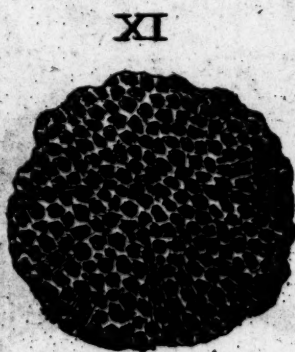
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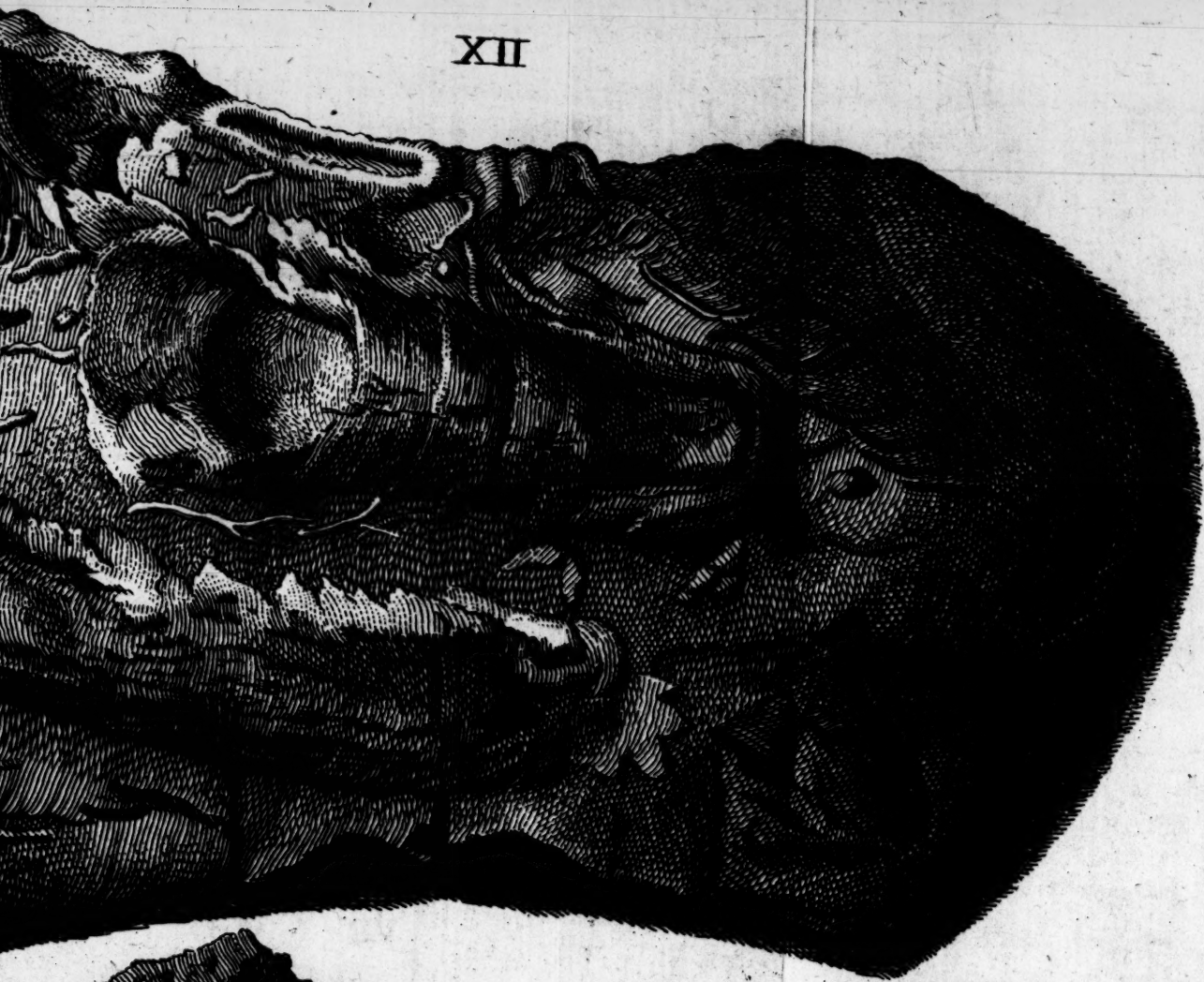


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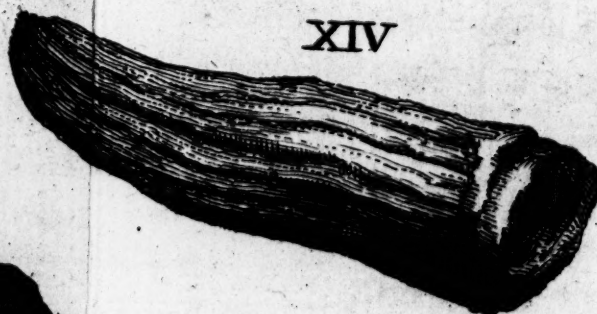
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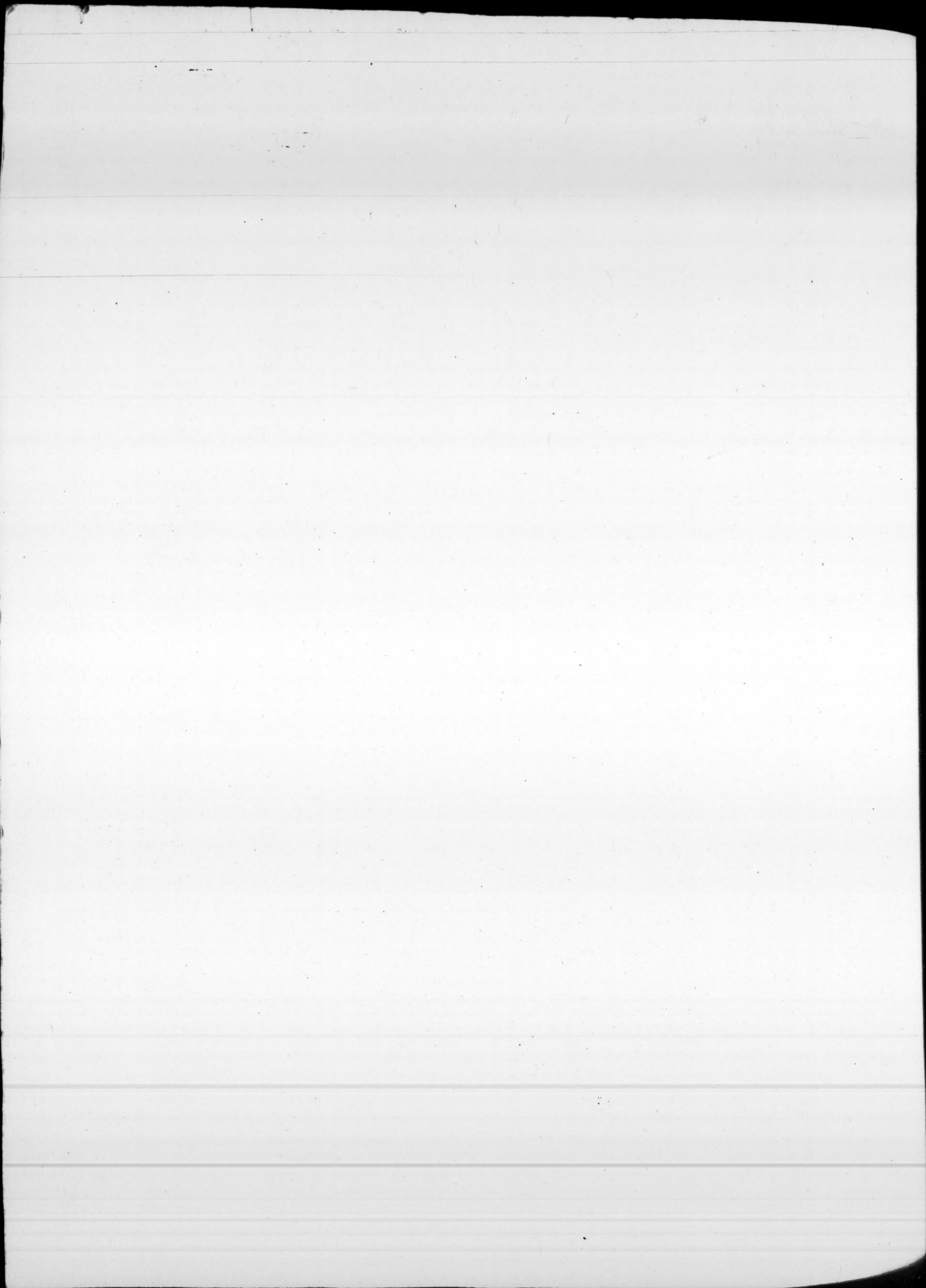


XIII



XIV





not been described. Such, for example, is that which you see, according to its natural bulk, and also magnified by the microscope in Pl. VII. fig. 8. 9. which would resemble an egg cut at the top, if it were not spirally striated from the bottom to the circumference of the mouth. The insect, that inhabits this shell has no *operculum* of any kind; it is altogether black as a coal, which renders it extremely difficult to distinguish the very minute parts. In the same manner is found the white microscopic *Nautilus* described by Bianchi in his celebrated work * *De conchis minus notis*. The cultivated land contiguous to this lake is white, and produces abundantly.

Three short miles from the lake of *Zablachie* is the salt lake of *Morigne*, communicating with the sea by means of a natural canal, which stretches within land opposite to the island of *Crapano*. It is about three miles in circuit; the mouth a hundred and fifty feet broad; and its bottom, which is overgrown with sea-weed, is, for the most part, muddy, and so shallow, that, at low water, the tops of these weeds appear, in many places, on a level with the water. The perennial stream of *Ribnich*, that runs into it, invites the fish thither, and the excellent feed they meet with, detains them. It would be very easy to make a close fish-pond of this lake, from whence plenty of all sorts of fish might be obtained, with much greater advantage than the extent of the spot seems to promise. There are two rocks towards the west side of *Morigne*, on which, in former times, there must have been buildings, for many squared stones, and the foundation of walls, are still to be seen. Perhaps from these remains the vulgar tradition had its rise, that, a city had been swallowed up in the situation now occupied by the water.

X 2

The

* Jani Planci Ariminensis *De conchis minus notis*.

The fishing is managed there, in the same slovenly manner as at Siosella, by the inhabitants of the neighbouring villages. The shell fish of the lake of Morigne, are almost entirely the same as those in the lagunes of Venice, and Comacchio; and if the sea carries thither the seeds of other species that love deep water, they do not propagate, but return to a more suitable situation.— Among the microscopic shells of Morigne, besides a variety of *Cornua ammonis*, and other minute bodies, common to almost all sandy and muddy bottoms of the Adriatick, there are many *Porpites*, like those fossil ones sometimes found in your Bolognese brooks, and which have been washed down from the higher hills. The chasms of Brendola hill in the Vicentine contain also great quantities. Their bulk originally does not exceed that of half a grain of millet. Examined by the microscope, they appear wholly composed of small lines, or divisions, very irregularly intersected, and forming a great number of cells for the Polypes fabricators and inhabitants of the little city. Pl. VII. fig. 10. 11.

The lands adjacent to the lake, are of the same quality as those around Zablachie, and both these make a part of what is called the *Campo d'abbasso*, which is by far the most fertile spot in the territory of Sibenico. The common Dalmatian marble, and a kind of lenticular soft stone, prevail in the more elevated parts of this tract of country, near the sea. Advancing nearer the bottoms of the high mountains, I found them composed of concreted clay, like those of the coast near Zara.

Of SIMOSKOI and ROGOSNIZA.

The weather did not permit me to land at the place now called old Sibenico, where, perhaps, I should have found some monu-

monument of the good old times; though Peutinger's table does not place any ancient settlement in that neighbourhood.

The last maritime places, that I visited under the jurisdiction of Sibenico, were the two small islands *Simoskoi* and *Rogosniza*. The highest parts of *Simoskoi* are of common Dalmatian marble, and, towards the bottom of the eminences, the stone is less rough, and quite full of marine exotic bodies, which may be mostly reduced under the genus of *Orthoceratites*, though distinguishable by particular articulations. The substance of some of these bodies is remarkably porous, notwithstanding the change they have undergone; and innumerable little cells may be distinguished, by the help of an ordinary glass. Observe at fig. 12, one of the most curious specimens; it is now in England, in the precious collection of the Earl of Bute, the noble Mecænas of natural history in that kingdom. The following fig. 13. was carefully drawn by Count Fausto Dragenich Veranzio, from a specimen in my possession, which came from the *Isole coronate*. The interior part *a, a*, minutely striated, is the *nucleus* of the *Orthoceratites*, composed of a very bright spato-calcareous crystallisation; and, on breaking these *nuclei*, the vestiges of concamerations, divided in two, by a partition, are often found. The outer part *b, b*, is also striated longitudinally, like an imperfect *Amiantus*, and is the ancient spoil of the animal, converted into a less white, and less bright spar, though very close. The substance *c, c*, which encloses this petrification, and covers its exterior lineaments, is a hard whitish common stone. It would be tedious to describe the variety of this species of petrification, which is met with all along the coasts of Dalmatia, though Donati could hardly find any distinguishable fossils there. I will only add one more (fig. 14) which represents a piece of
lapideous

lapideous *Orthoceratites* with the external superficies striped and channeled, something like the cardo, or hinges of a shell.

A shallow and narrow canal, which at low water does not admit the passage of boats, divides this island from the continent; and attentively examining the opposite banks, it is easy to perceive that this separation is not very ancient. The extremity of Simoskoi, that stretches towards the neighbouring shore, is composed of white saline marble, * the same as that of the shore opposite to it. It is not unlikely, that the intermediate space was dug up in former times, to furnish materials for the sculptor; and this conjecture appears the more probable, because the marble of Simoskoi resembles the ancient statuary marble used at Rome. The corrosion effected by the sea salt on the portion of this stratum that remains alternatively above, and under water, according as the tide ebbs and flows, rendering the superficies of the marble rough and knotty, discovers a quantity of fragments of the marine crystallized bodies that compose it. The naturalists, and some of the most celebrated, as Swab, and Raspe, have supposed the substance of saline marble void of extraneous bodies; and, indeed, I will not pretend to affirm, that, in all saline marbles, the vestiges of such bodies are preserved so as to be distinguishable. Yet before I denied it, I would visit the quarries, and examine pieces that had been long exposed to be washed by the sea, and to the action both of the air and the sun. The
marble

* *Marmor (micans) particulis spathoso-squamosis.* Linn.

Hoc petrificatis destituitur. Swab.

Of this marble of the island Simoskoi there ought to be a variety specified *quæ petrificatis scatet*, and the same thing may be observed in the ancient Roman statuary marble, which was very different from the saline marble of the Greek islands, whereof statues were also made.

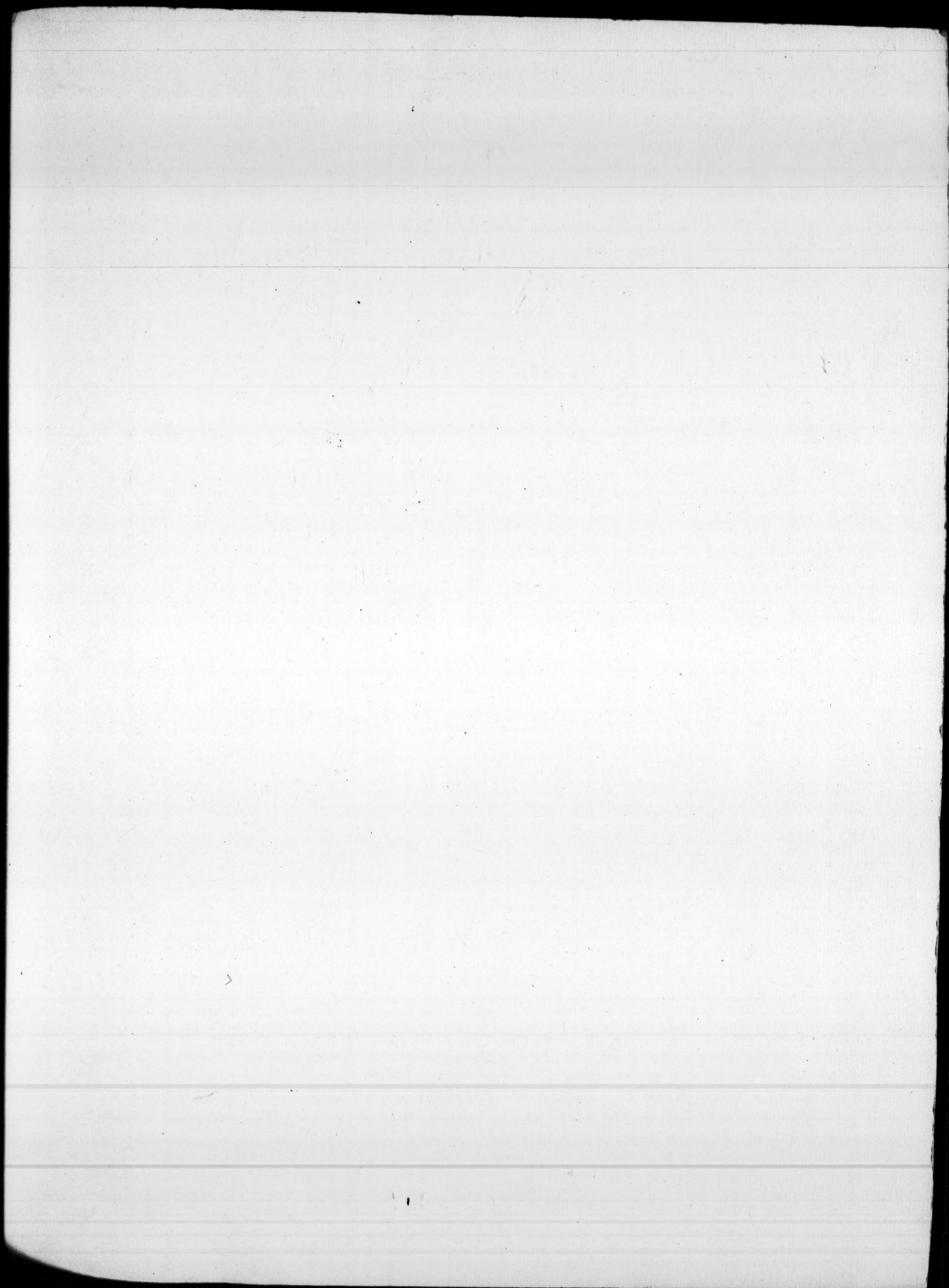
marble of Carrara, at least at first sight, seems to fall under this learned and ingenious explanation. But however this may be, it certainly admits of no doubt, that the white marble of Simoskoi is precisely of the same nature as the ancient Roman statuary marble; and hence it would be of no small importance to examine this spot carefully, in order to discover if pieces of a proper measure could be dug up. It is ridiculous to think of drawing advantage from marble that appears above ground, or to form a judgment of it from the superficies of the exterior stratum. And if the quarry of Simoskoi was not found proper for statuary uses, a search might be made in the neighbouring parts with almost a certainty of success.

On this island some fossil bones are found, though in a very small quantity. But on Rogosniza, and the rocks of *Muja* and *Pianca* contiguous to it, they are found in large masses. The situation of *Rogosniza* lies so much out of the way, that nothing but the violence of contrary winds can induce vessels to touch at it. It is situated in a large bay, and may serve for a harbour to small vessels. The inhabitants are poor and wretched. The *Orthoceratites* prevail in the lower stratum of the marble on this island; in the clefts there are masses of flowered alabaster, or as it may rather be called, red veined stalactites. I saw fossil bones there, at a distance from their native situation, confined in large broad pieces of concreted stone, and accidentally placed before the houses of those peasants. Walking about the habitations of Rogosniza, I happened to discover, in the hard marble rock, a curious fossil very much resembling horns, and recollect to have observed, in the publick museum of natural history at Padua, a piece of the same species, under the denomination of *Cornu Vacinum*. I am however, of opinion, that the ceratomorphous fossil of *Rogosniza*, as well as the other at Padua, are *Orthoceratites* of which
the

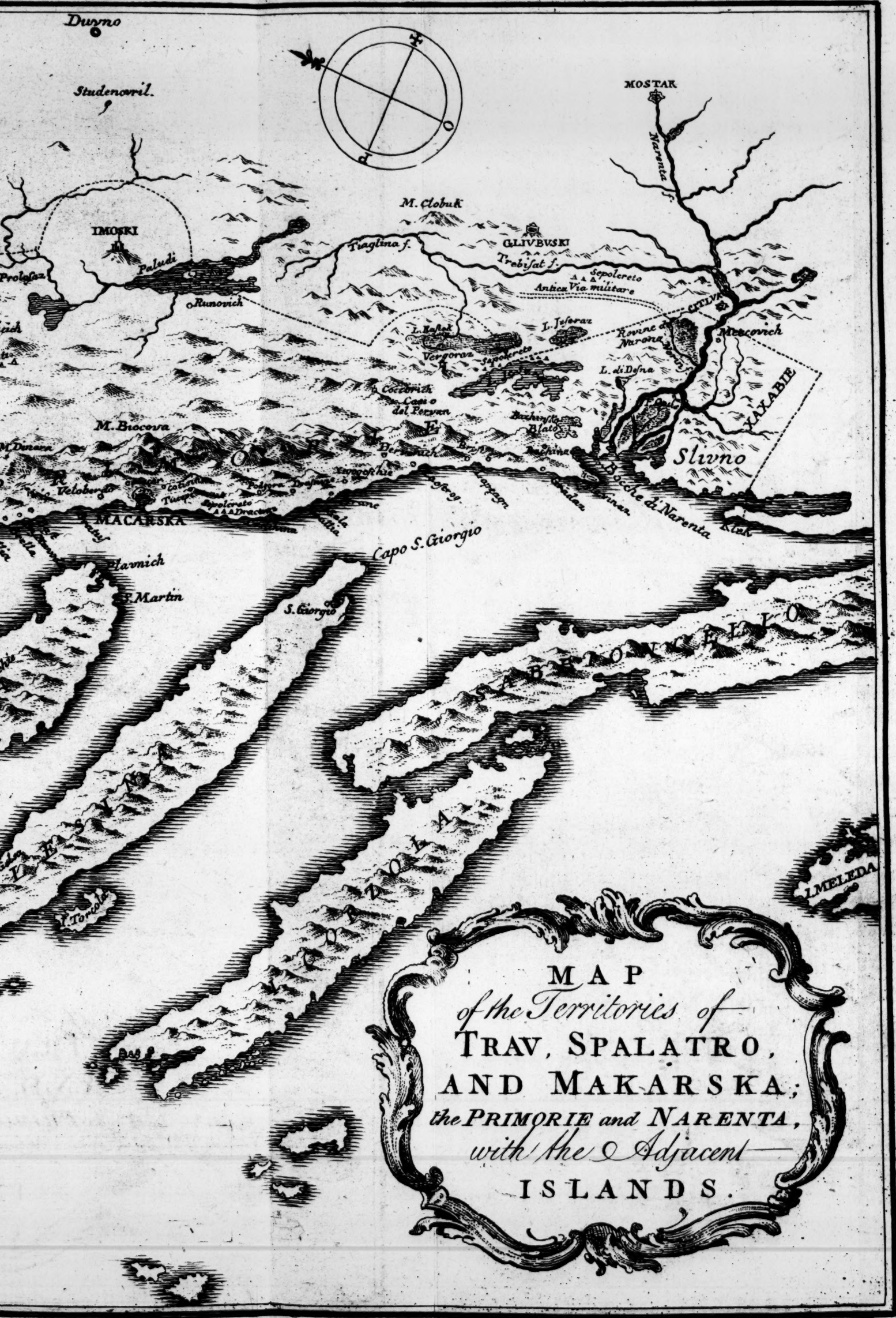
the species are now lost, or are the produce of more distant seas. You will probably say that the name of *Orthoceratites* is but ill suited to a recurvous fossil; and I agree with you; so you may call it, if you please, *Campiloceratites*.

I hope this long letter may induce you to make me a similar return; and if you think I have detained you with particulars not very interesting, exert your generosity by giving me a hundred for one, as you can well do it without fear of impoverishing yourself.

T O









T O

Mr. J. JAMES FERBER,

MEMBER OF THE MINERALOGICAL COLLEGE

O F

S W E D E N,

FELLOW OF SEVERAL SOCIETIES, &c.

Of the County of TRAU.

A T our last parting, when you undertook your journey through the mountains of Italy, for the purpose of those observations which have since gained you so much honour, and done so great service to the learned naturalists of the north, then not well acquainted with ancient volcanos, I promised to communicate to you a part of my observations on Dalmatia, whither I was also preparing to set out. You required a ratification of my promise in writing, when you favoured me with your friendly letters in that distant province; and now, since I am deprived of the honour and happiness of your company, in visiting this country, where your insatiable desire of seeing new objects relative to natural history, cannot on that account be gratified, I will readily proceed to the performance of my promise.

Y

Of

Of the District of T R A U.

The jurisdiction of Trau, begins opposite to the island Rogosniza, and extends, for thirty miles along the sea coast, almost to the ruins of Salona, comprehending several inhabited islands, besides a greater number of uninhabited rocks. One of these is called the little *Pianca*, and held to be dangerous in navigation, by its being exposed to the open sea, while the others are defended by the larger islands.

One cannot help smiling, when, in the first volume of the *Illirico Sacro* of the Jesuit F. Farloti, we are told, that the pass of the *Pianca* is so much the more dangerous, because, there the waters of the rivers Narenta and Cettina meet those of the Kerka in different directions. The truth is, that the mouth of the Narenta lies at least eighty five miles distant from this place; and that river runs so slowly into the sea, that the tide rises above twelve miles up its current. The river Cettina is forty miles distant from the *Pianca*, and loses itself in the sea below *Almiffa*. Besides, the Kerka falls into the lake of *Scardona*, at least thirty miles from the *Pianca*, and twelve from the sea, whither it is conveyed, together with the waters of the large harbour of *Sibenico*. From this blunder of a very learned man, writers should learn not blindly to trust to the informations of ignorant people. Among the most remarkable places on the coast under the jurisdiction of Trau, a lover of antiquity will certainly take notice of *Trau vecchio*, or old Trau, as it is vulgarly called. It lies at little more than twenty four miles from *Sibenico*, and about nine from Trau. Giovanni Lucio, the celebrated Traurine writer, believed this spot to have been antiently the *Prætorium* of Peutinger's table. I am
not

not willing to attribute to the Romans the choice of so bad a spot, nor so bad a taste in building. The situation is unhappy in every respect; being out of the way, without a harbour, and without cultivable land; the building is very coarse, without any mark of squared stones, according to the good Roman architecture. The ruinous walls which bear the name of old Trau, appear to me rather the remains of some vast private habitation than of even a midling population; they are composed of irregular stones taken from the contiguous hill.

The floors, which in some places still remain, are of a coarse mixture, though bound together by so strong a cement, that it still resists the force of time and of the sea. I am inclined to believe these ruins rather of Grecian architecture of later ages than the Roman; and a kind of chapel, that is still distinguishable, increases my suspicion. In all the neighbourhood of this desolate place, no inscription of any kind is to be found; not one hewn stone, or piece of mosaic, or fine marble; things that are always seen, in more or less quantity, where the Romans inhabited.

The rock which abounds all along the shore of old Trau, is full of marine fistular bodies, of the same kind as those I observed in the islands of the channel of Zara, and which are very frequently seen in the *Isle Coronate*.

Of BOSSIGLINA, and the Peninsula ILLIDE, or HYLLIS.

A few miles beyond the ruins just described lies the hamlet of Veneschie, near port Mandola, where, formerly there was a mine of *Pessasphaltus*; but I could not possibly find any specimen of it. On the road to Trau lies the village of Bossiglina, in whose denomination Lucio thought he saw clearly the

corruption of the name of the *Bulini*. He ventured to fix very narrow limits to the peninsula Hyllis, suffering himself to be led by the etymological conjecture, that if the *Bulini* inhabited this tract, there remained, of course, no other room for the *Illi*, besides the small extent of ground, known, by old geographers, under the name of *Promontorium Diomedis*, and which stretches into the sea between the island of Rogosniza, and the village Boffiglina, a feod of the see of Trau. Thus, the extent of Hyllis, from one point to the other, would be no more than twelve miles, and its greatest breadth would not exceed five; measures which seem by no means to agree with the description left us by Scymnus Chius, who calls it a large peninsula, and says it was thought equal to the Peloponnesus. No vestige remains of the fifteen cities which we are told this peninsula contained; and fifteen cities would have occupied a great part of the narrow superficies just mentioned. The passage of the ancient geographer is as follows, "To these (the *Liburni*) is united the nation of the *Bulini*. Then there is the large peninsula of *Illis*, thought equal to the Peloponnesus. They say there are fifteen cities on it, inhabited by the *Illi*, who were originally Greeks, as their founder was *Illus* the son of *Hercules*. These, however, in the course of time became barbarous, as it is said, by mixing themselves with other nations." *

It appears more probable that so great a number of cities stood on the tract of country which lies between the mouths of the river *Tizio* (always fixed as a boundary of *Liburnia*) and those of the *Tiluro*; which space approaches near to that of the Peloponnesus, and includes the fine lands of *Knin*, *Petrovopoglie*,
Seign,

* Scymn. Chius inter Geograph. min. Hudson. V. 403, & seq.

Seign, and the territory that lies around the buried ruins of Promona, which was the centre of the Illyrian country, properly so called, at the time of Augustus. The name of Illide was also given to the mountainous peninsula of Sabbioncello, which stretches into the sea between the mouths of the river Narenta, and the island of Curzola. But the authors, who gave it that name, had not well examined the descriptions of ancient geographers, which are far from agreeing with those of Sabbioncello.

Whatever were their ancient origin, the inhabitants of Bosfiglina, of our days, are so poor, that they are often obliged by necessity, to grind the roots of asphodel, of which they make a very unwholesome bread, which cannot but contribute to perpetuate their weakness and misery. The constant complaints produced by this hurtful root, are pains of the stomach, and hemorrhages. I cannot enough wonder that the possessors of lands and feudatories of Dalmatia, generally mind so little the subsistence of their peasants, who, really, have need of others to think for them. The plantation of chesnut trees, which has never been attempted in any part of this province, would certainly thrive well in the inland mountains, and might soon produce a healthful food for the poor. Potatoes would also prove of great benefit to them, and they would surely rather feed on those than on the root of orus, asphodel, or boiled juniper berries, food too much used in years of scarcity, by many wretched inhabitants of the islands, and on the sea coast. You know well how useful potatoes have been to your native country, where they supply the place of bad bread, which the squalid peasants, particularly of Delecarlia used to eat in times of scarcity.

The:

The wool of Boffiglina is of a much better quality than that of the neighbouring parts, and this difference is probably the consequence of the attention of some former bishop, who thought it worth his while to migliorate the race of sheep, by importation from Italy. And there is reason to hope for some greater benefit to those poor vassals, from the humanity, and knowledge of the present worthy bishop of Trau, Monsig. Antonio Miochevich.

Not far distant from Boffiglina, stands the village of Seghetto, on the sea coast; it is surrounded by well cultivated fields, which, rising gently towards the mountains, afford, in every season of the year to mariners, a very agreeable prospect of olive woods. From this village, the road leads to Trau, over a plain, at a small distance from the shore.

Of the City of TRAU, and the MARMOR FRAGURIENSE of the Ancients.

Trau, called by the Slavi *Troghir*, is distant from Sibenico about thirty-four miles by sea; and though not a city considerable for the extent of its walls, or the number of its inhabitants, yet it is famous on account of the antiquity of its foundation, the learned men it has produced, and for the spirit of concord which reigns among its citizens. The Syracusans, multiplying in the island of Iffa, beyond the proportion of its small limits, detached a colony, which came and built Trau. The situation they chose is a proof, that the Greeks, wary and provident at all times, did not degenerate when transplanted into other countries. The city stands on a small artificial island, joined to the continent, by a wooden bridge, and to the island
of

of Bua, by a strong wall, or bank, intersected by two stone bridges, and a draw-bridge, that serves for the passage of small vessels.

The breadth of the canal, between the city and the island of Bua, is about thirty-five feet, and is much frequented by small barks, which, in coming from Zara to the eastern extremity of the province, are afraid of the open sea, and endeavour to shelter themselves within the islands.

The celebrated Giovanni Lucio, born at Trau, of a noble family, now extinct, published a voluminous history, full of records and good informations relative to that city. Trau has produced many learned men, and in the library of one of them, was found the famous codex of Petronius, with the fragment of Trimalcion's supper. Yet I could discover no traces of this codex which Spon had the good fortune to see in 1675. Coriolano Cippico, Marino Statileo, Tranquillo, and Paolo Andreis, are the most illustrious names among the Traurine *literati*. Of these, and others, I, perhaps, at a more convenient opportunity, may give some particular memoirs, availing myself of the learned labours of the worthy bishop now busy in collecting them; if he himself, who can do it in a superior manner, does not give them to the publick for the honour of his nation.

Pliny briefly mentioning Trau, distinguishes it from the other Roman settlements, for the celebrity of its marble; *Tragurium oppidum Romanorum marmore notum*. Vitaliano Donati imagined, that the *marmor Traguriense* of the ancients, was the same as that known in our days, under the name of marble of Istria,

or

or of Rovigno. Perhaps it may be so, and I will not venture to assert precisely the contrary, against the opinion of so great a man. But I may safely affirm, that, if the Traurine marble had been of the same species with the hard common stone, which mostly composes the shore and islands of Istria, and Dalmatia, the Romans needed not to go so far as Trau to fetch it : For the hills in the neighbourhood of Rome, which overlook the Pontine marshes, as far as Terracina, (without mentioning the Mediterranean hills of those parts) are mostly composed of the very same kind of marble, which I believe I may call marble, or hard stone of the Apennines, since the mass of that whole chain of mountains is almost totally formed of it. Now it is certain, that with much less expence, they could have brought large masses from Terracina to Rome, than from Dalmatia. Neither can it be alledged, that the Romans were not acquainted with the quarries of the Apennine marble, or knew not how large pieces they might extract from thence. Among other places, where the labours of their stone-cutters appear, that piece of marble mountain cut perpendicularly on the bank of the sea, for a hundred and twenty feet, just near Terracina, to remove an incommodious pass in the Appian way, is very observable. You doubtless examined it, in your passage that way to Naples, to visit Vesuvius. Besides, if the Romans had chosen, through caprice, which cannot be attributed to so wise a people, to bring a very common marble from a distant province, they would not, at least, have brought it from Trau, but rather from the eastern parts of Dalmatia, or from the nearer islands, which equally abound with it, and where there also were Roman settlements. Add to this, that, among the ruins of Rome, no works of this kind of marble are seen ; and it is evident, that, in the ancient fabrics, they always used the hard stone of Tivoli, called Tra-

vertine

vertine in our days ; or the Peperine taken from the hills near the city itself, not from Piperno ; and lastly the sandy volcanic *Tophus*, which was brought from the hills of Marino.* In colonnades, and other ornamental parts of ancient buildings, besides granites, porphyry, and other vitrescent marbles, there are to be seen calcareous *breccia* of various stains, and solid marble of different colours and substance, brought from different countries. Among these stones of the second class it would be requisite to search for the *Traguriense*, which nobilitated its native soil. It probably was a variegated *breccia*, now confounded with the African marble, as the tops of the hills over all Dalmatia furnish various and noble specimens. It is also very likely, that the ancients found statuary marble in the neighbourhood of Trau : but it is impossible to guess where the quarry is, unless it happened to be discovered by chance, or by a person employed on purpose to examine the whole country with minute attention ? I endeavoured, though unsuccessfully, to find the saline marble near Trau ; and an attempt was made to impose on me, by showing me a piece of Carrarese marble, and pretending it was taken from the hill of S. Elia, near the city, where, in a rocky situation, there are ancient quarries, not quite vulgar, though very far inferior to the Carrarese marble. It were well if all travellers used the same precaution that I constantly did, before they asserted a fact on the faith of another,

Z

and

* It is strange that the celebrated Wallerius confounds the *lapis Peperinus* with the *Travertinus*, and, by the description he gives of both, shows, that he knows neither of them well. Pag. 356, 357, of the new edition 1772, of his Mineralogical system ; trusting to *d'Arcet*, he asserts, that the Peperine stone is not volcanic ; yet at page 422, forgetting himself, he acknowledges the Peperine or *Tibertine* to be volcanic, believing these two very different species one and the same. How many corrections would the most celebrated writers make in their systems, if they travelled a little more !

and go to the spot themselves, or, at least, to threaten to go, whatever difficulties may lie in the way. At all events, the stone of S. Elia deserves some consideration, if not for its whiteness, at least for the facility there is in working it. It also takes a fine polish, and is of a very close grain; and though not so well suited to noble works of architecture, it would answer very well for more ordinary sculpture, and placed less within the reach of the eye of an examiner. Without all doubt the ancients made use of it.

Few inscriptions, and no remains of Roman buildings are preserved at Trau. The *lapides* are already published in the collections, yet some of those that formerly were there, are now no more to be found.

Of the Island of BUA.

The Island of Bua, called *Bubus* by Pliny, is united to the city of Trau in such a manner, that I do not think myself at liberty to separate them, though the former contains such a variety of objects, as to deserve an article by itself. The numerous habitations, on that part of the shore of Bua, that looks towards Trau, might very properly bear the name of a burgh, and would indeed appear very considerable, if its vicinity to the city did not obscure it. It must be confessed, however, that the situation of the burgh is, by far, more pleasant, than that of the city. In the times of the decay of the empire, it was called *Boas*, and several illustrious men, that fell under disgrace at Court, were banished to this island; among whom were Florentius, master of the offices of the Emperor Julian, Immentius de Valenti, and the heretick Jovinian. The emperors of Constantino-
ple,

ple, either were not much acquainted with this pretended Siberia, or were willing to treat the banished with great clemency. It is certain that the climate of this island is exceeding mild; the air perfectly good; the oil, grapes, and fruit excellent; and the sea around it abounds in fish, and the port is large, and secure. Neither is it so small that a man has not room to walk, and ride about as much as he pleases; for it is ten miles in length, and about twenty-five in circuit; nor can it be said to be rugged, though rather high and mountainous.

In the village of Bua, a palm tree sprung up forty-three years ago; it stands continually exposed to the changes of the air and seasons, yet, ten years ago, it begun to bear dates, and since, never fails to produce a large quantity yearly. These dates, it is true, are not of the most perfect quality; but they are eatable, though they have somewhat too much sharpness, which proceeds, I apprehend, from the severity of the winter, to which the tree is carelessly abandoned; for however mild it is on the island of Bua, the winters in Africa, and Asia, where the palm trees grow in their native soil, are certainly much milder. The dates, that the palm tree of Bua produces, are without any stone, perhaps through want of fecundation from a male tree near it. Instead of stones, they have a cavity, the sides of which are a little harder than the pulp. I make no doubt, that, if the owner of the palm tree had it covered during the severity of the winter, it would produce sweeter and better dates.

I found on this island various kinds of marble, and stone: There is plenty of white marble for building, like that of Istria, of a coarse grain, and that flies off in splinters like a flint stone; also a laminated marble of the same nature, in the

superficies of which are often seen impressions and protuberances of fossil marine bodies. But the lenticular marble prevails, though not always of equal hardness; there are some veins of soft calcareous stone, obedient to the chissel; concreted clay, and masses of stalagmitic spar, known by our sculptors under the name of flowered alabaster. Flints of various colours and figures are often seen bedded in this marble, as well as scattered on the schistous earth, that, here and there, divides the veins of stone; and frequently are surrounded by aggregates of petrified marine bodies. I did not find, either in this island, or in any part of Dalmatia, where flint stones are observable in marble, a verification of the fact asserted by M. de Reaumur, who, treating of their origin, in the memoirs of the academy, says, that flint stones, for the most part, affect a kind of rotundity. On the contrary, in the island of Bua, they are, for the most part, irregularly angular, in large pieces, with an even surface, visibly interrupting the continuity of the marble. They seem, as it were, to have fallen from a higher place by some accident, and, without suffering fluitation, to have been buried by their own weight in the marine mud, and afterwards, in the course of years, became hardened into marble under water, then remaining dry through the space of other ages, it underwent all those revolutions whereby continued strata are torn asunder, mountains are divided, and their parts carried away, triturated into gravel and sand, which parts at last remaining insulated, by the introduction of remote seas, the waves of which, dashing impetuously against these new islands, discompose their bases, and corrode, by little and little, the long labours of more ancient waters.*

The

* This paragraph appearing rather complicated and obscure, the author was desired to separate his ideas, and to give a brief explanation of them, which could be

The flints of Bua, and generally those of the whole province, that are found buried in marble hills, bear evident marks of having been separated from a continued mass, in so much that I
am

be inserted by way of annotation. He very readily complied, and the translation of his answer is as follows.

The angular figure of the flints enveloped in the strata of the island of Bua, and their lodgement in matter of a very different nature and substance, made me think, that they must have fallen from mountains higher than the island itself. But as they are found buried in calcareous strata, composed manifestly of marine fragments and mud, it is necessary to suppose, that those strata were in a state of softness, and consequently under water, at the time of the fall of the flints from higher hills. These strata, in the course of ages, must have become petrified, and others have been deposited above them, which have also been successively petrified. The sea, forsaking, by little and little, its former situation, left dry, who can tell what vast tracts of land, among which was the country now called Dalmatia, as well the continent, as the neighbouring islands; though it is not to be supposed, that it was left in the same configuration as it appears at present. The correspondence of parallelism, and local inclination, manifestly discernible between the strata of the islands, and those of the adjacent continent, seems to prove, that, in ancient times, the whole formed only one continued mass. The waters of the mountain torrents beginning, by degrees, to excavate divisory hollows, formed, from the solid continued mass, many promontories, and hills, divided in various ways, according to the directions of their courses, which, as every one knows, who travels with philosophical reflection among the mountains, are subject to eventual, as well as permanent changes; by these torrents the great masses being undermined and subverted, have been reduced to a state of gravel, afterwards rolled and shattered, and at last corroded, and reduced to dust.

The state of mountains, and of valleys watered by rivers, and torrents, does not persist, perhaps, beyond a certain period determined by nature, and hitherto unknown to us, as it relates to the return of the waters of the sea to their ancient seats; who knows by what road? By the straits of Gibraltar perhaps? The distant sea advanced towards those stratifications, anciently formed by accidental
waters,

am tempted to believe they have been torn from large strata of mountains, which now do not exist; notwithstanding the learned naturalist, just named, writes, that flint stones are never found deposited in strata.

In support of my conjecture, I remember to have observed on the spot, and find minutely described in my journals, a stratum of green flint stone, which traverses horizontally the vulcanic matter of one of the insulated hills of Montegaldo, between Padua and Vicenza, called montelungo. And I have very often seen black flints disposed in strata in the Euganean hills, and particularly where they are formed of that species of white calcareous scissile and pyritaceous stone, called by us *Scaglia* and *Alberese*, in most other parts of Italy. It is true, that I have also seen, on the shore of Manfredonia, adventitious flint stones rounded by water, in prodigious quantities; and, ten miles up the country, at the passage of *Candelaro*, rounded flints, with the external coat white, detached and confined in a very brittle species of marine *tophus*, formed of fossil madrepori, and fragments of petrified *testacei*. But neither the flints of Manfredonia, nor those of the little hill adjacent to the *Candelaro*, are natives of the places where they actually are, but manifestly have been brought from other parts.

From

waters, and afterwards divided and shattered by the torrents, occupying all the depth of the vallies, which became channels, and sea bottoms, and surrounding the mountains, changed them into islands. Now the waves dashing against their roots, go on undermining and wasting them, first reducing the ruins into rough angular stones, then into round gravel, afterwards into sand, and at last into dust, and impalpable earth, and thereby form, in the bottom of the sea, the basis and structure of future continents, which, in their turn, will probably undergo the same revolutions, to an indefinite time.

From these facts, I think I may be allowed to call in question the universality of Linnæus's doctrine: *Silex nascitur in montium cretaceorum rimis, uti quartzum in rimis saxorum.* * Yet that learned naturalist ought not to be accused of want of exactness on this account; he would have changed his opinion, had he travelled in our southerly countries, or had he received information from our observers. If finding the flint stones frequently disposed in strata, proves that M. de Reaumur was mistaken, when he said they are mostly adventitious; in like manner, the great quantities of rounded flints frequently found disunited, and which probably became so after having been disengaged from the cement of *breccia* marble, prove, that M. Linnæus was greatly mistaken, in prescribing to them the absolute law of having their origin in the clefts of cretaceous hills. I have many times found the flint stones in the act, as it were, of passing from the calcareous to the siliceous state; and particularly I have often met with them involved in volcanic matter. I have even gone so far as to dispose in series the various degrees of this passage, and have had the pleasure of showing it to many of our learned friends.

The flints of Bua, fixed in marble, are sometimes surrounded by an ochreous crust, not much thicker than half a line; sometimes they are maculated with rust, and, when wrapt in clay, or in fragments of marine bodies unequally petrified, they sometimes affect a kind of roundness. There are ramous, cylindrical, globular, and oval flints; but these forms are common also to many pieces of stones not siliceous, which are frequently found blended with them, and on the outside are not easily distinguished from them. A cylindrical flattish flint stone, which I caused
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* Linn. Syst. Nat. Silex.

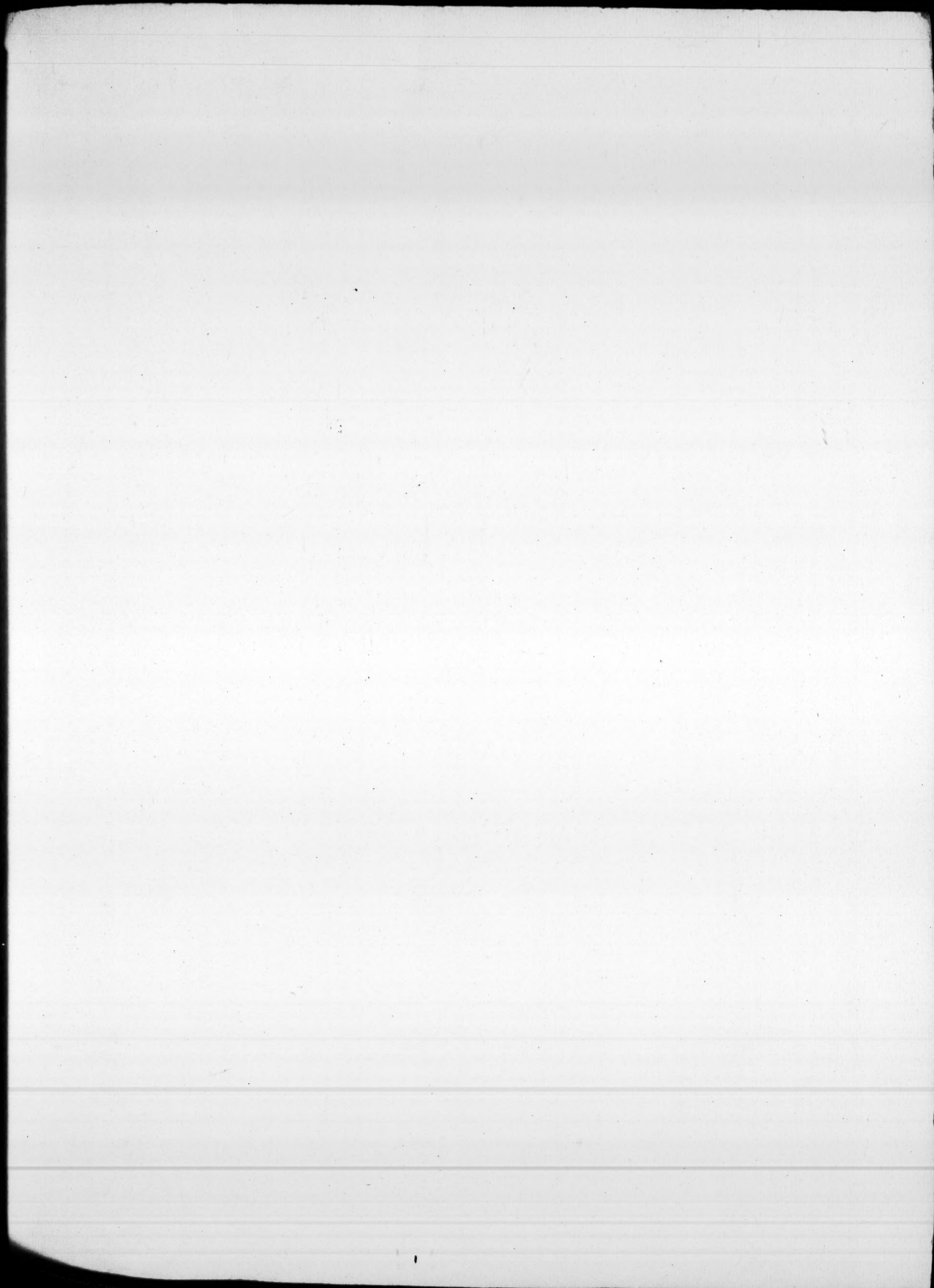
to be polished, is altogether penetrated by veins of calcareous crystallized spar, which surround small bits of flint, full of minute marine bodies, of the frumentary kind. This piece is well calculated to puzzle any one who flattered himself that he had a clear idea of the formation of flints. Henckel, in his *Pyritologia*, after having said much on the subject, confesses, that it was unintelligible.*

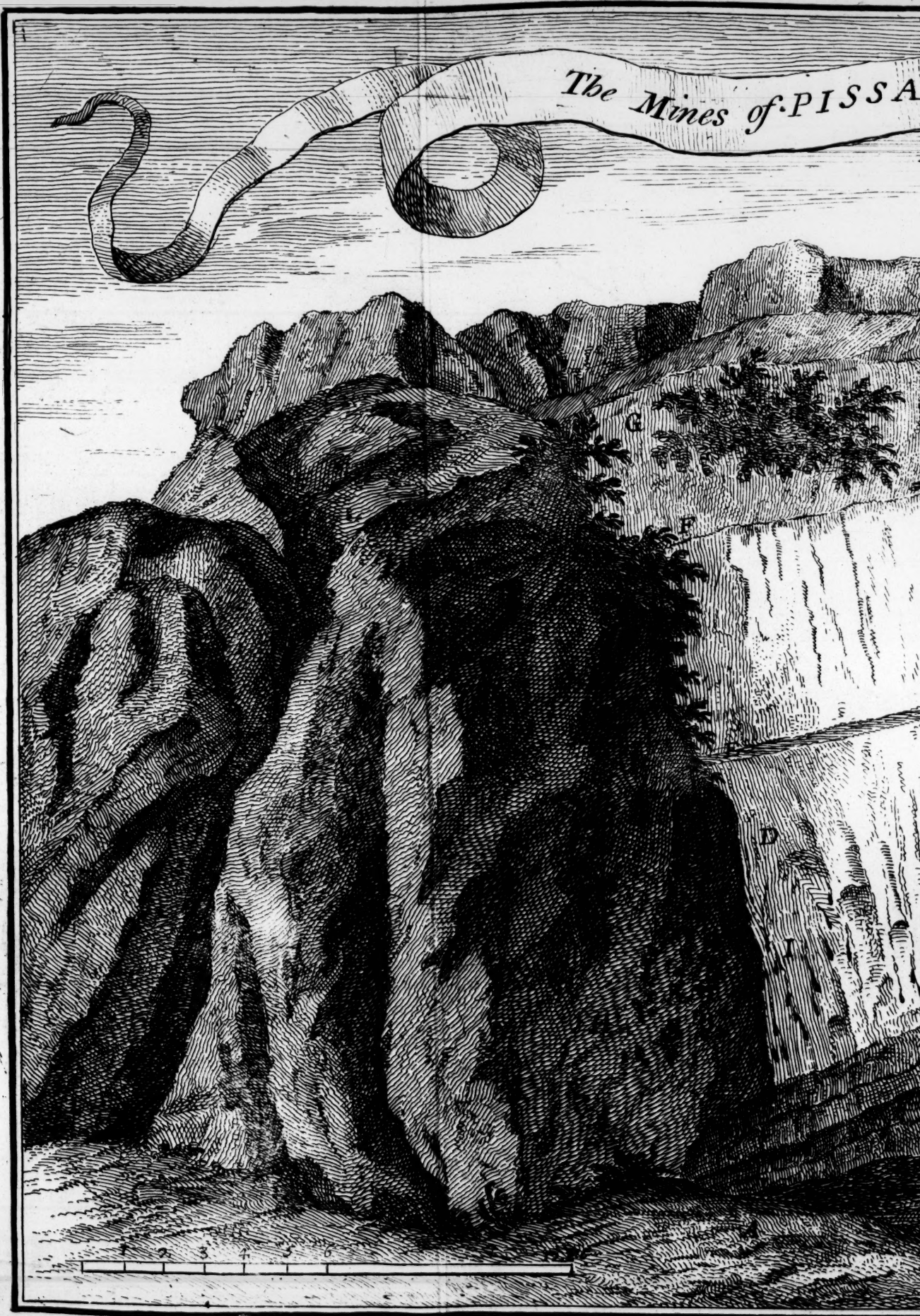
Concerning a Mine of PISSASPHALTUM.

The fossil curiosity of Bua, which, in my opinion, merits greater attention than all the rest, is the mine of *Pissasphaltum*. I venture to call it a mine, however improper the term may appear, that I may not be obliged to call it a spring, which would seem still a more strange denomination. The island of Bua is divided into two promontories, between the west and north, one of which faces the island of Salta, and the other is extended opposite to Trau. Crossing over the top of this last, which is not half a mile broad, and descending in a right line towards the sea, one is conducted to a hole well known to the inhabitants. This hole extends not much above twelve feet, and from its bottom, above twenty-five feet perpendicular, arise the marble strata which sustain the irregular masses that surround the top of the mountain.

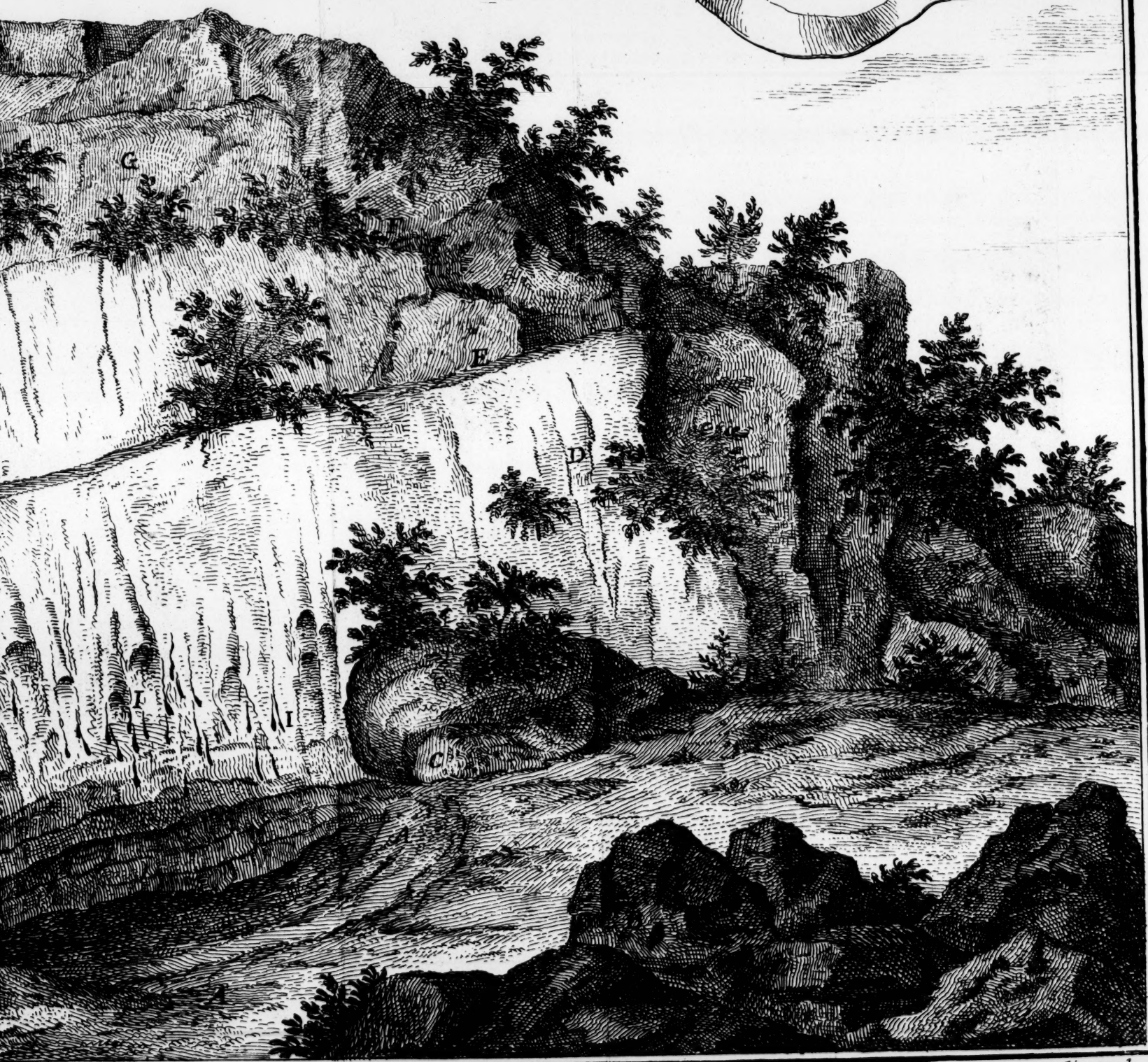
The

* In the collection of the noble Venetian Giacomo Morosini, there is, among many other valuable fossil curiosities, a small table of Jasper, taken from the hills of Recoaro, near the mineral spring, whereof the substance of the stone, and the shells of the *Terebratulæ* and *Griphites* entangled in it are siliceous; and the internal of these marine bodies is full of a white and very bright calcareous crystallization.

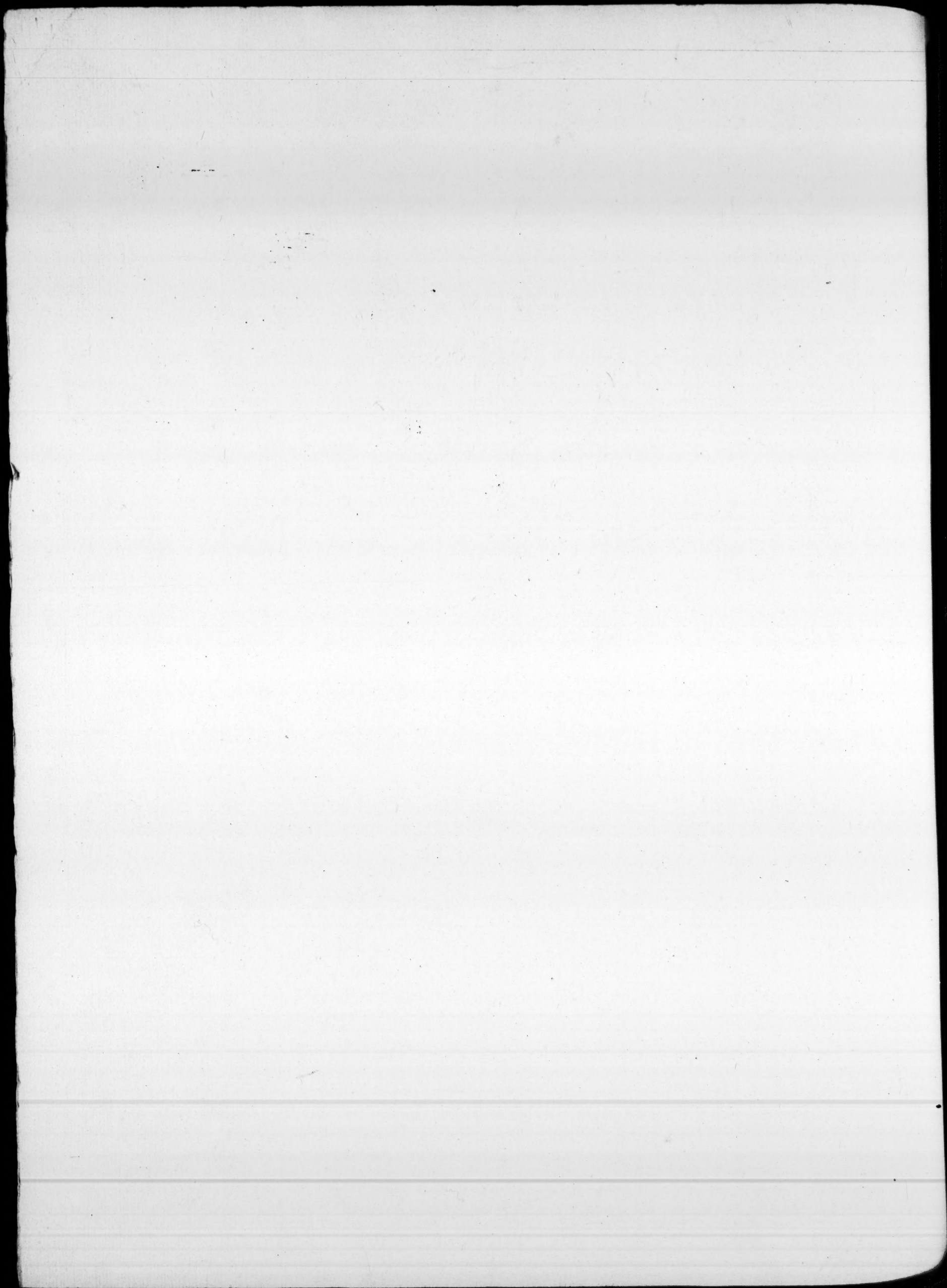




SSA SFALTO in the Island of BUA.



J. Leonardi sculp.



The place seemed to me so worthy of observation, that I caused a drawing of it to be taken. (P. VIII.) The hole AAA is dug out of an irregular stratum of argillaceous sandy earth, in some parts whitish, and in others of a greenish colour; part of it is half petrified, and full of *numismates*, of the largest kind, *lenticulares*, and fragments, with, here and there, a small branch of *madreporites*, and frequently of those other fossil bodies, called by Gesner *Cornua Ammonis candida, minima, &c.* The mass B is fallen from the height of the rock, and lies isolated. The excavation, made by some poor man in the softer matter, reaches a little below the extremity CC of the stratum DD. This is separated by the line EE from the stratum FF, which is of hard common marble, with marine bodies, without flints. The upper part aa is of hard lenticular stone, interspersed with flints full of *lenticulares*. The mass H does not discover the divisions of its strata on the outside, and transpires very small drops of *Pissasphaltum*, scarcely discernable. But the tears III of the same matter, which flow from the fissures and chinks of the whitish stratum DD, are very observable. They come out most abundantly, when the sun falls on the marble rock, in the heat of the day. This *Pissasphaltum* is of the most perfect quality,* black and shining, like the *bitumen Judaicum*; very pure, odorous, and cohesive. It comes out almost liquid, but hardens in large drops, when the sun sets. On breaking many of these drops on the spot, I found, that almost every one of them had an inner cavity full of very clear water.

The greatest breadth of the tears, that I saw, was two inches, and the common breadth is half an inch. The chinks and fis-

A a

fures

* *Bitumen subfriabile piceum.* Linn. Syst. Nat.

fures of the marble, from whence this bituminous pitch transudes, are not more than the thickness of a thread, and, for the most part, are so imperceptible, that, were it not for the pitch itself, whereby they are blackened, they could not by any means be distinguished by the naked eye. To the narrowness of these passages is, no doubt, in part owing the small quantity of *Pissasphaltum* that transpires.

I have broken many different pieces of that hard calcareous stone, and constantly found within them black spots of lucid pitch, which sometimes communicate with the exterior fissures, and sometimes are like little insulated drops, without a vent on any side. It appeared to me on the spot, that, from hence there might be ground to suspect, that the pitch pre-existed in the calcareous earth, in the bottom of the sea, before its concretion into stone.

The upper part of the hill is marble, with hardly any covering of earth; no trees grow upon it, nor could they grow, without much help of art. Who can tell whence it came there, and how, when the solar rays beat on those rocks, the pitch transpires black and quite perfect? What very remote combustion of woods, or what volcano produced it? And at what prodigious distance of time, and difference of circumstances? And how does that water enter, which constantly accompanies it, even in times of the greatest drought? Does it come from the high hills of the continent, passing under the channel of the sea, which divides the island of Bua from Trau? and, in that case, how can it ascend through the very compact strata of marble, of which the island itself is composed? Can it be imagined, that the heat of the sun qualified those masses to attract it from the sea,

sea, which in some places insinuates itself under them; or from some fountain deeply buried? I confess I am not satisfied with any of these conjectures; and therefore leave it to you, who are more conversant in such obscure matters, to account for this phenomenon. In various parts of Europe, and particularly in Auvergne, near Clermont-Ferrand, there is a hill that yields *Pissasphaltum*. Strabo makes mention of a remarkable place in Epyrus, in the territory of the Apolloniati, where it is gathered from the ground. But the hill of Clermont is volcanic, * and, in the neighbourhood of the mine mentioned by the geographer, there was † a rock that emitted fire, and there were hot baths contiguous. In like manner, from the hill near Castro, in the *Compagna Romana*, the bituminous pitch transpires, and is taken notice of by Boccone; but that place is quite surrounded by matter thrown up by ancient volcanos. On the island of Bua there is no vestige of a volcano, either ancient or modern; neither is there any for many miles within the continent.

I remember that you once told me of a pitch, like the above-mentioned, that runs from the rocks in a province of Sweden, but you did not add that the hills from whence it issues were examined and minutely described by any of your countrymen. I find almost all the writers, who have treated of mineral pitch, have been very careless in examining the strata from which it transudes; and I think it is a faulty negligence.

The *Pissasphaltum* of Bua is correspondent to that fossil production, which, by Hasselquist, in his travels, is called *Mumia*

A a 2

Minerale;

* Aldrovandi, Mus. Metall. p. 382.

† Strab. Geograph. Lib. VII.

Minerale; and *Mumia nativa Persiana* by Kempfer, which the Egyptians made use of to embalm their kings. * It is found in a cave of mount Caucasus, which is kept shut, and carefully guarded by order of the king of Persia. One of the qualities assigned by M. Linnæus to the finest bitumen is to smoke when laid on the fire, as ours does, emitting a smell of pitch not disagreeable. I believe it would be very good for wounds, as the oriental *mumia* is; and like the pitch of Castro, which is frequently used by the Roman surgeons, for fractures, contusions, and in many external applications. †

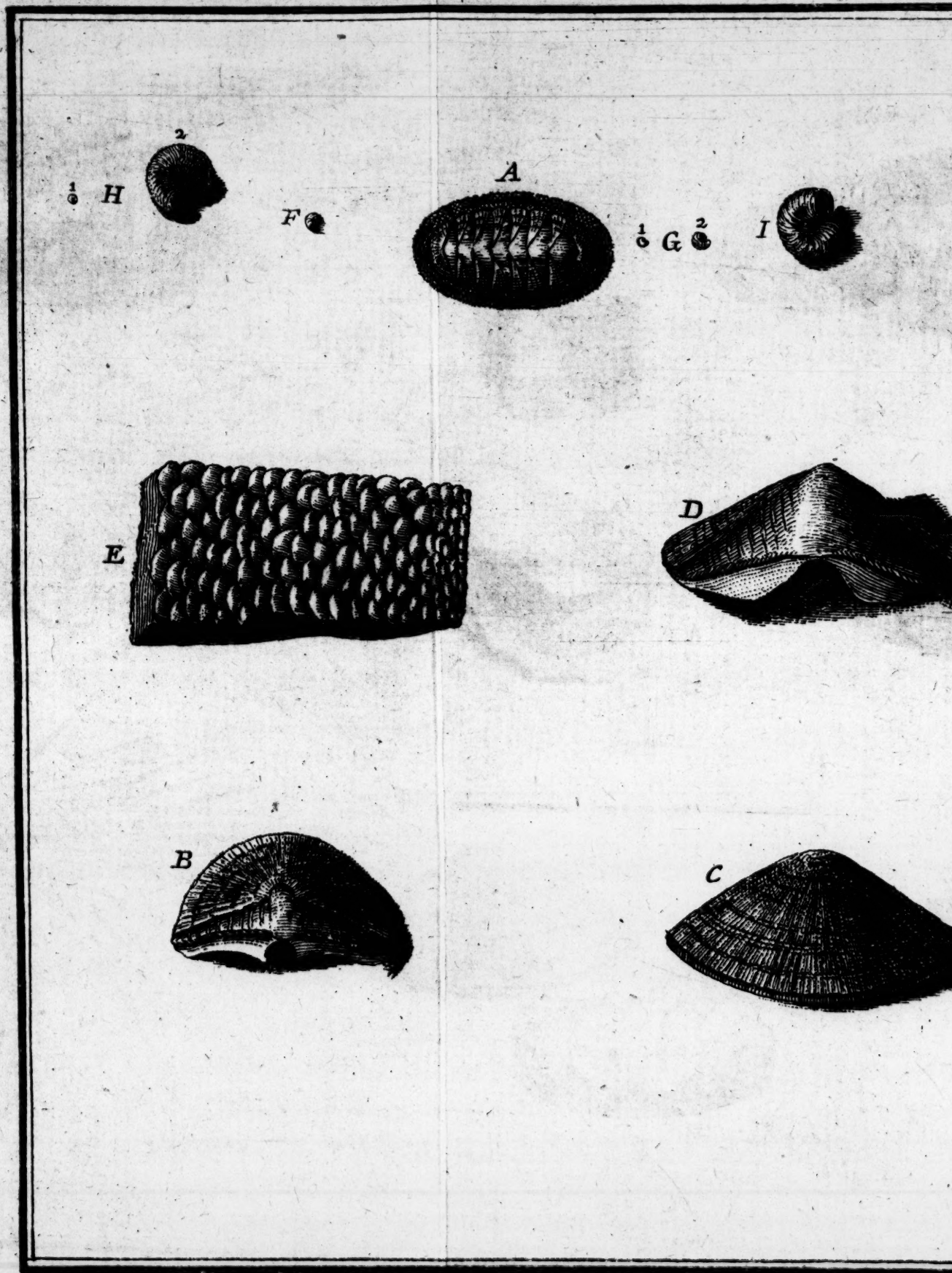
Of articulated PATELLITES.

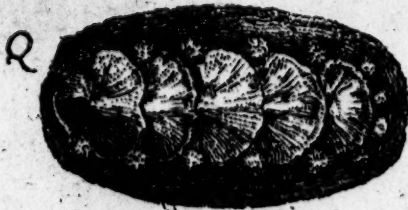
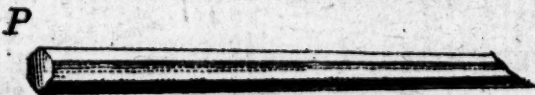
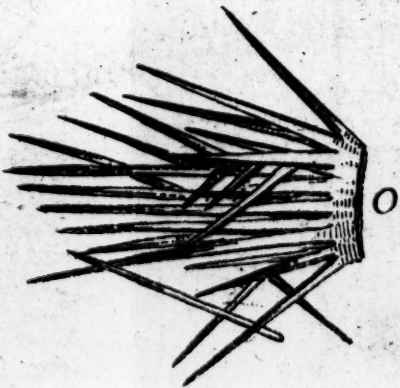
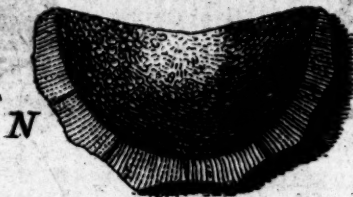
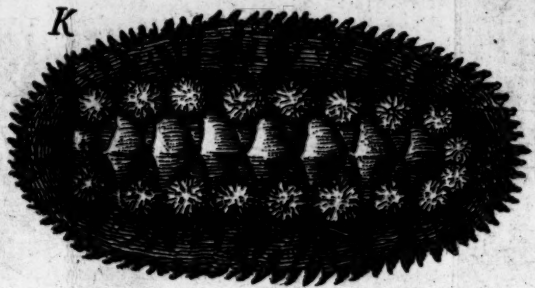
Among the many marine animals that are found in the port of Bua, and along the sea shore, which is altogether encumbered

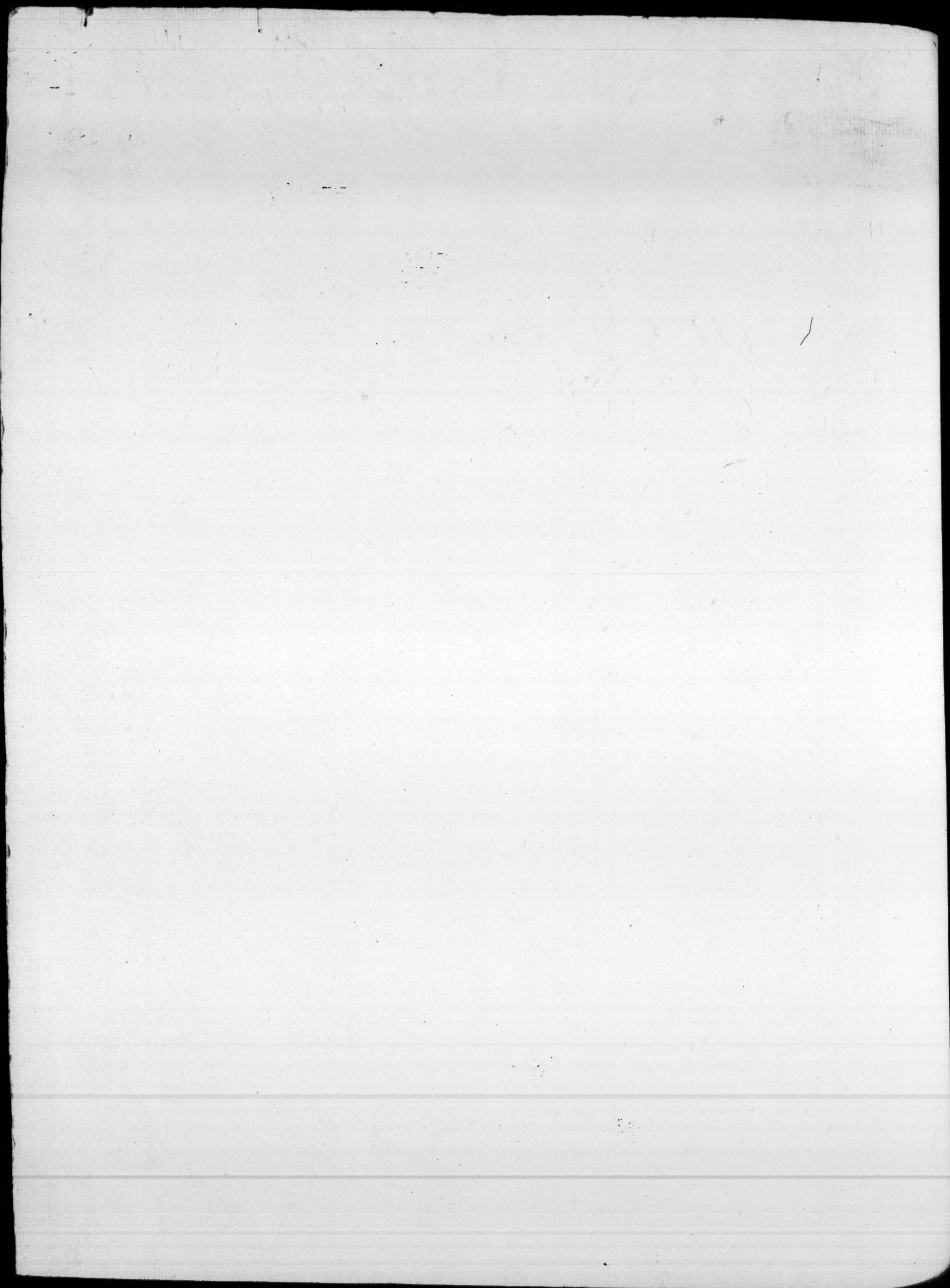
* “ *Mumiabi*, or native Persian Mummy. It proceeds from a hard rock in
 “ very small quantity. It is a bituminous juice, that transudes from the stony
 “ superficies of the hill, resembling, in appearance, coarse shoemakers wax, as
 “ well in its colour, as in its density, and ductility. While adherent to the rock
 “ it is less solid; but is formed by the warmth of the hands; it is easily united
 “ with oil, but repels water; it is quite void of smell, and very like in substance
 “ to the Egyptian mummy. When laid on burning coals, it has the smell of
 “ sulphur tempered a little with that of naphta, not disagreeable—There are
 “ two kinds of this mummy, the one is valuable for its scarcity, and great acti-
 “ vity—The native place of the best mummy is far from the access of men,
 “ from habitations, and from springs of water, in the province of Daraab. It
 “ is found in a narrow cave, not above two fathoms deep, cut like a well, out
 “ of the mass, at the foot of the ragged mountain Caucasus.” Kempfer. *Amæn. Pers.*

This description agrees perfectly with the *Pissasphaltum* or fossil mummy of Bua, differing only in the privation of smell, which it is difficult to imagine is totally wanting in the Persian mummy.

† Boccone *Museo di Fisica*, &c. p. 161.







bered with masses fallen from the rocks about it, two species of oblong articulated *Patellæ*, called *Babusche* by the fishermen, deserve a particular description, as they seem hitherto to have been but ill distinguished, and worse drawn, by the writers of marine natural history, especially by Rumphius, and Ginanni, one of whom calls them *Limaci marini*, and the other *Patelle testudinate*.

The shell of this animal is of so elegant a structure, that it appeared to me to merit a more accurate drawing. The fig. A. (Pl. IX.) represents it stretched out, as it naturally is, adhering to the plain superficies of stones, or of other matter under water. It is composed of eight pieces, one over another, the scales of fishes, connected together by strong tendons, by means of which the animal, when in motion, extends its length considerably more than when it lies still. To this voluntary extension is also accommodated the coriaceous border, which examined through a glass, on the side that adheres to the stones, is altogether interwoven with papillary nerves, corresponding, perhaps, to an equal number of protuberances on the external superficies.

These *papillæ* supply a glutinous matter, that serves to keep the animal exceedingly fast on the substance to which it adheres. When forcibly torn away two or three times, the animal remains without the means of fastening itself anew, lying as dead for many hours, till its glutinous vessels become full, and then it turns again upon its belly. When this animal is in motion it does not show its head, but has it always covered by the coriaceous border, which moves all at once by the mechanism of a distension and prolongation of the above mentioned papillary

lary vessels, which serve instead of legs. In examining the body of this articulated animal alive, I did not observe in the foot or base, (which, like that of the common *patella* extends through the whole length of the animal) any distinct organ; perhaps the progression of that callous sole depends on the movements of the coriaceous border. The mouth is like that of the other *patellæ*, but the internal structure is still more simple; there being nothing to be seen but a continued bag from the mouth to the *anus*.

The excrements of this animal are small cylindrical grains, and they take this figure in the bag just mentioned, which is often found full of them. Its food is small sea worms, and more frequently, the gelatinous substance of various species of *Polypi*, which propagate on the stones in the sea. Although the articulated *Patella* is never found so near the shore, as to be left dry at low water, yet it loves the fresh air, and shows this love with singular precision. I kept several of them in cups full of sea water to have them ready for the microscope. They remained squat under water, as long as they heard any noise in the room; but I no sooner went out, or sat still, and silent, for some minutes, than they moved directly towards the edges, and, when they felt themselves above water, raised their coriaceous border sometimes on one side, and sometimes on the other, as if enjoying the pleasure of the fresh air; and at last, contracting themselves, they remained half above and half under water, or crawled upon the upper edge of the cup, where they staid with one side quite raised up, that the air might penetrate the better under their wrinkled belly. The interior extremity, represented by Fig. B, much larger than nature, is very different from the posterior Fig. C. though, at first sight of the animal, they

they appear of the same structure. The six vertebræ in the middle, Fig. D, are all similar; and the border that surrounds them, beheld in the microscope, exhibits a globular superficies, exemplified by a small bit of it in Fig. E. On the shell of this *Patella*, various species of very minute *Polypi* use to make their habitation, and particularly the *Escharie* build their houses there. The testaceous pipes of different marine worms are also frequently adherent, and many of them are very elegantly turned in spiral wreaths, and fasciated, as represented in their true size, Fig. F, G, H, and magnified by the glass, in Fig. G, H, I. The colour of the shell of this *Patella* is various, not only in the individuals, but also in the vertebræ. Some of them are gray, others greenish, yellow, or black; and some have the extremities of one colour, and the vertebræ of another, or one vertebra red, and the rest all pointed. I have a specimen where the two extremities, and the half of the first vertebra are black, and the rest green. M. Linnæus places this species among the *Chitoni* in No. VII.

The other species of *Patella*, represented by Fig. K, is not very common in the waters of Bua, and loves rather slimy bottoms, like that of the valley of Siofella. I should call it *Patella articulata, cotennofo-testacea, adorna di fiocchi*. This *Patella* resembles the first species in its interior structure, but is very different without. Its border which approaches to a horny substance is hairy, and spotted with black on gray, terminating, all around, in little flattish pencils sharp at the points. The number of vertebræ is equal in both species; but in this last, the swardy substance of the border fills up the exterior interstices, forming in the connexions of the vertebræ, as many pyramids, which meet together at the points. The same vertebræ, Fig. L, have

have their incurvation more acute, and their testaceous part is covered with an *epidermis* pointed with very small circlets, that correspond exactly in Fig. M, N, to that already described Fig. E. But the greatest difference, that characterises this second species, consists in its ornament of eighteen tufts or tassels, of a silver colour, composed of filaments resembling Amianthus. These arise at the juncture of the *vertebræ*, and serve, as it were, for a base to the swordy pyramids above mentioned. Reckoning in this manner, the tassels should be only sixteen, as the spoil of the articulated *patella* is composed only of eight parts; but they have two which are somewhat smaller than the others at the anterior extremity. The fig. O represents the sixth part of one of those tassels magnified, and the columnar hexagon P shews one of the filaments seen through a greater magnifier. I cannot imagine what use the animal makes of this apparatus. Linnæus describes this shell, and makes it an inhabitant of the coast of Barbary, at No. IV. of the *Chitoni*. His description, however, does not give a sufficiently precise idea of the structure of the animal, and is not very exact in the number and disposition of the tassels, nor about the colour of the shell, its arcuation, &c. *. One very rare species of fasciated chiton, with only six articulations, I found on re-examining my collection, after my return from this tour; and it is represented by the fig. Q. But, among more than a hundred octovalve chitons, collected with a good deal of pains, I could find only this single specimen.

An

* *Chiton testa octovalvi corpore ad valvas utrinque fasciculato.*

Habitat in Barbaria.

Corpus cinereum, læve. Testæ leviter carinatæ. Fasciculi pilorum totidem, albid, juxta testarum latera corpori insident. Linn. Syst. Nat.

An infinite number of other curious living creatures propagate in the little openings of the port of Bua, among which I make no doubt there are many that would prove new to the naturalists: but much attention is required to observe them in their various states; much time to discover their nature, and different qualities; a long examination of books not very common, and of farraginous collections; in order to be certain, that they have not been already described by writers of marine natural history. I have sketched the history of several, but without intention of publishing it, till time and opportunity enable me to render it more complete.

*Of the Sea Coast of TRAU towards SPALATRO, and of the
MILO STONE.*

The sea coast of Trau, to the eastward, is well cultivated, but not extensive. It reaches to the foot of the mountains, yet hardly in any part exceeds a mile and a half in breadth, including the plain, and the cultivable part of the mountain.

At two miles distance from the city, there arises, from the roots of mount Carban, a considerable stream of water, which would form no ignoble river, if it had a longer course, and did not, almost as soon as it issues from the subterraneous caverns, loose itself in a salt pool, which somewhat hurts the air of Trau. The rocky masses, from which this large spring arises, are of hard lenticular stone; the middle part of the mountain is an argillaceous light-blue earth, in some places more, and in others less concrete; and the summit is of common whitish marble, *Breccia* and *Numismales*, indeterminately, as may be inferred from the gravel that descends with the eventual streams of rain water,

B b

and

and in the perennial rivulets, by many of which that delicious coast is watered. Eight mill stones are turned in these corn mills, which are moved by horizontal wheels, whose *radii*, or spokes, are made in the form of spoons, according to the general custom in Dalmatia. Here, for the first time, I saw mill stones composed of many pieces of Milo stone, with which I was not before acquainted: it takes its name from an island in the Archipelago. I cannot easily believe, that the island took its name from the use of the stone, * as it was called by the ancients *Μῆλος*, not *Μύλος*. This kind of mill stones is used in almost all the corn mills of Dalmatia, in preference to heavy hard stone, because they turn more easily and quickly, and consequently do much work in little time.

The examination of the Milo stone convinced me, that, from this apparent advantage, real prejudice must be derived. It is white, full of hollows, and very light in proportion to its bulk. At first sight of its irregular vacuities, the work of stilliciduous water seems to discover itself; consequently it ought to be classed among the *Pori aquei*: but compared with the black porous pumice heavy stones of ancient volcanos, it resembles them much in its texture. In turning rapidly it wears, and mixes its vitreous angular particles with the flower, which renders the bread gritty, and of course must produce very bad effects on the human

* Cristoforo Crisponio, the author of a geographical account of Islands, in MS. with cuts, preserved in the library of the Counts Draganich Veranzio of Sebenico, asserts, that the island of Milo took its name from the mill stones. The Manuscript seems to have been wrote about the end of the fifteenth century. Crisponio says, in the body of this work, that he had wrote another, expressly concerning the island of Crete. Notwithstanding the prejudices of his age, this author (whose works I believe are not published) has merit.

man body. The best way to use the Milo stone, would be, in the construction of arches, and vaults, in imitation of the Pompejans, who built theirs of the black pumices of Vesuvius. It is lighter than any other species of stone, or *topbus*, and would not weigh much on the lateral walls; it is very apt to receive the cement through its many cavities; neither is it hurt by the air, or salt, which, in time, consume all sorts of marble, and brick, it being composed of little crystalline stones closely united. *

Beyond the mills of Trau, the pleasant shore of the *Castelli* stretches itself to the ancient ruins of the city Salona; and the amenity of this narrow coast has been justly celebrated by all the writers concerning Illyricum. One of these castles is built where the *Siclis* of the Peutingeriana stood, and probably the *Sicum* of Pliny, where Claudius sent his veterans. The vines and olives are so well cultivated here, that, from this short tract of narrow ground is annually drawn the best part of thirteen thousand barrels † of excellent oil, and fifty thousand barrels of good wine, which, according to the best information I have had, is the produce of these two articles, one year with another, in the territory of Trau. The shore of the castles yields also a good provision of almonds, three thousand quintals of figs, and some
B. b 2 corn

* *Petroflex opacus variis foraminulis inordinate distinctus.* Wall.

Pumex saxiformis, cinereus. Linn. 182. 6.

The white very light Milo stone seems not to be individually known by the naturalists beyond the mountains, although the general definitions of Wallerius, and Linnæus agree with it. Bomare is better acquainted with it than any other, but he calls it *Quartz carie*, a strange denomination, rather poetical than mineralogical.

† A Venetian barrel contains about seventeen gallons.

corn, which, however, is not the richest produce of those parts. The internal part of the territory of Trau, which is about a hundred miles in circuit on the continent, produces very little wine, and scarcely any oil. The flocks that feed there, together with those on the islands under the same jurisdiction, yield about four hundred thousand pounds of cheese, and wool in proportion. The number of inhabitants in this territory is about twenty thousand. *

Of noxious Insects in the District of TRAU.

In this soft climate, many noxious insects are generated, which damage the productions of the earth of all sorts; and it rarely happens that the cold in winter is intense enough to destroy, or even to diminish, in general these hurtful species. The most pernicious of all is the *Punteruolo*, called *Magnacox* by the inhabitants. Besides those that live on the fruits of the earth, some are enemies to animals, and especially to man. A species of *Tarantula*, very like that of Calabria and Apulia, is known here by the name of *Pauk*, which is common to all spiders in the Illyric language. The peasants, who in the hot season are obliged to work in the fields, are frequently bit by this venomous insect, as well as by the variegated spider known in Corsica by the name of *Malmignatto*. The remedy which they make use of to calm, by little, and little, and to remove entirely the pain produced by the poison of the *Pauk*, is to seat the patient on a slack rope, well fastened at both ends to the beams, and to swing him for five or
fix

* I think it just and necessary to declare, that the respective details relating to the products and population of the territory of Trau, were communicated to me in writing by Signor Pietro Nutrizio, a gentleman of that city, together with many other informations.

six hours: a remedy analogous to the dance of those bit by the Tarantula in Apulia. The *Pauk* of Dalmatia are hairy, and spotted like those of Apulia, and are equally fierce and bold.

I am well acquainted with the race of these mischievous insects, having had frequent opportunities, in different places, of studying them, and have also kept them alive for some time in glasses. You will have seen, in the collection of Giacomo Morosini at Venice, one that I brought from Manfredonia a few years ago, and which lived there many months, on flies, notwithstanding the difference of the climate.

Accept, my dear Friend, this long letter as a testimony of my constant and tender regard for you; and if you can spare an hour, now and then, from your studies, pray write to me from those distant parts, that I may have the less reason to lament that my native country is so far from that which your virtues and learning have contributed to render so illustrious among us.

T O

1891

Dear Mr. [Name] I have the honor to acknowledge the receipt of your letter of the 10th inst. and in reply to inform you that the same has been forwarded to the proper authorities for their consideration.

I am very sorry to hear that you are not well, and I hope that you will soon be able to resume your usual avocations. I am, Sir, very respectfully,
Yours truly,
[Signature]

I have the honor to inform you that the same has been forwarded to the proper authorities for their consideration. I am, Sir, very respectfully,
Yours truly,
[Signature]

I have the honor to inform you that the same has been forwarded to the proper authorities for their consideration. I am, Sir, very respectfully,
Yours truly,
[Signature]

I have the honor to inform you that the same has been forwarded to the proper authorities for their consideration. I am, Sir, very respectfully,
Yours truly,
[Signature]

I have the honor to inform you that the same has been forwarded to the proper authorities for their consideration. I am, Sir, very respectfully,
Yours truly,
[Signature]

TO HIS EXCELLENCY

J O H N S T R A N G E, Esq;

HIS BRITANNICK MAJESTY'S MINISTER AT VENICE,
FELLOW OF THE ROYAL SOCIETY, &c. &c.

Concerning the District of SPALATRO.

THE literary correspondence, which, for some years, you have condescended to hold with me, would give you a right to my observations in Dalmatia, even if my first steps in that kingdom had not been made in consequence of your goodness and friendship for me. But as I owe entirely to you the honour and advantage of having accompanied, through a part of Dalmatia, the learned and amiable Lord Hervey, bishop of Londonderry, the continuation of whose valuable Friendship is a constant spur to my gratitude, I should think myself wanting, in a very material duty, if I did not address at least a part of my observations to you. At the same time, I must confess, that if I did not know you to be a true and profound philosopher, I might be ashamed of the little I have to offer you, and should think it an ill chosen time for such an offering, when you are just returning from a journey in the Alps of Switzerland, and Auvergne, from whence you will certainly bring to us many magnificent objects of meditation. What a difference between Germany and France, and Dalmatia! Besides, the naturally grand objects that presented themselves, you have, moreover, probably found a hundred instructive collections and
valuable

valuable works, relative to the fossil kingdom; and, after having examined them, you have, doubtless, visited the most interesting spots in person, with the certainty of not going in vain. I, on the contrary, have been travelling over a vast country, where science is but little cultivated, and where natural history is scarcely known by name. My expeditions were made at a venture; I often wandered over vast deserts, and craggy mountains, with the hopes of finding something to compensate my fatigue, but was too often disappointed. I could obtain no knowledge of useful or curious productions, but what I discovered with my own eyes; and I hardly met a person who was qualified to direct my steps rather to one side than to another. Under such disadvantages, I should not have had the courage to address my details to you, had I not known, that exact observations on common and obvious things, which have been ill examined by the generality of writers, are more interesting to a true naturalist, than more wonderful and uncommon phenomena of small extent, which usually contribute not very much to support general theories. I have learned from you many things in the art of observing, and your example has confirmed me in many particular customs of my own; hence, as it has often happened to you, so it has also sometimes occurred to me, that the assertions of reputable writers, on points of physical fact, are frequently false and erroneous. Neither the authority of few, nor the voice of many, can, I hope, impose on either of us to such a degree, as to make us hasty in asserting things not examined by our own eyes. I therefore presume, that the observations which I have now the honour to transmit to you, will be received with confidence, in regard to their exactness, in the same manner as those you often favour me with are ever received by me. Reciprocal faith is both reasonable and necessary, when

men,



Irregular STRATAS at the Foot

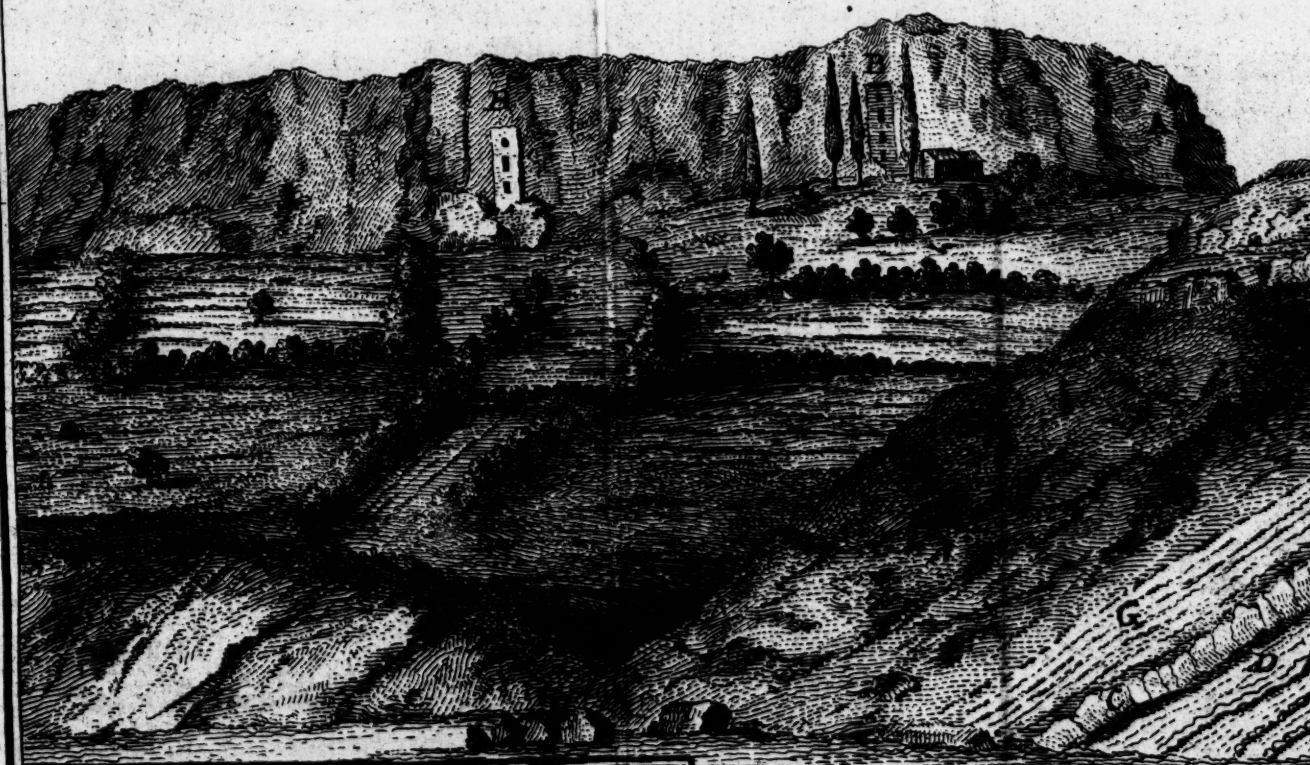
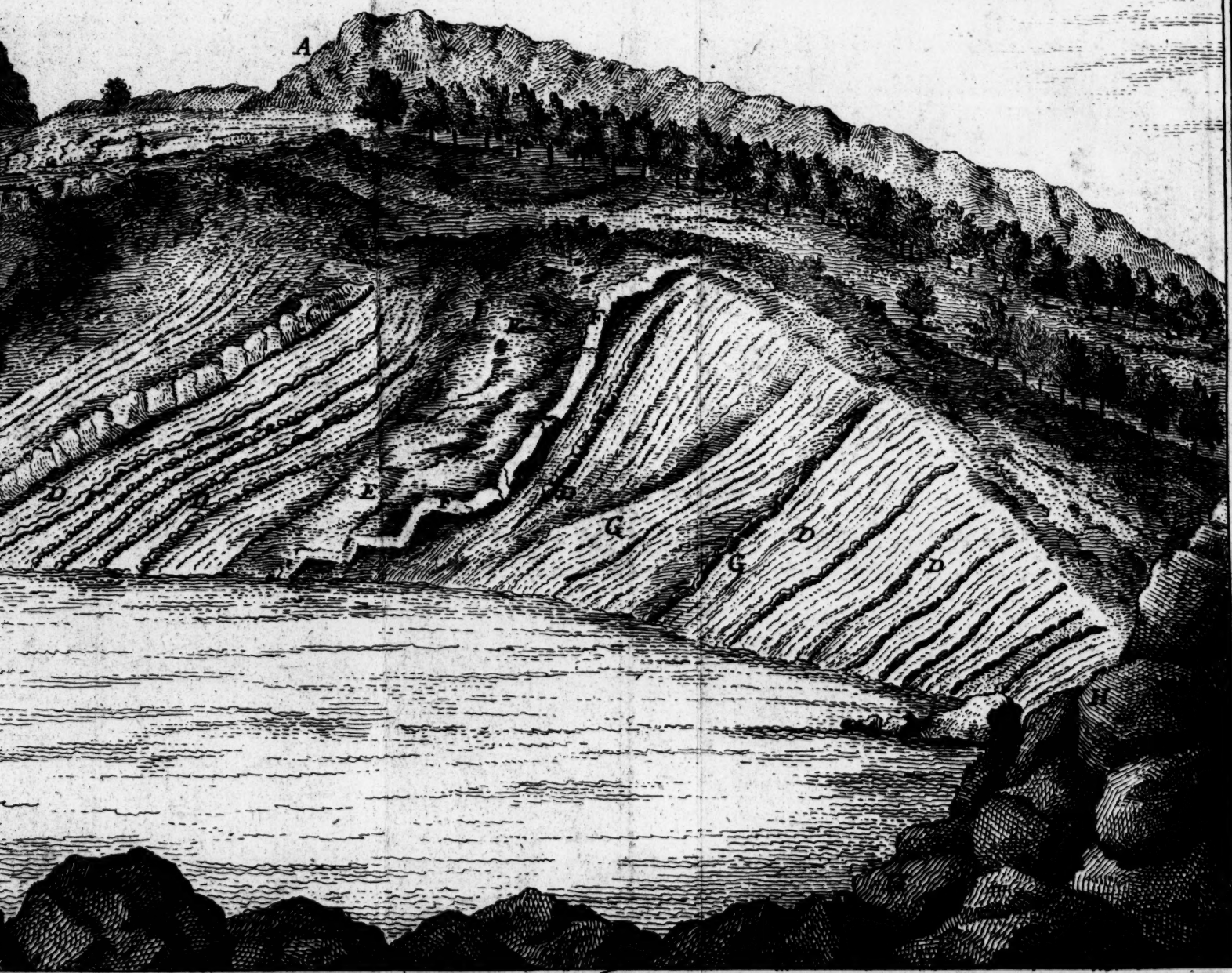


Fig. A.



the Foot of the MOUNT-MARIAN by the Sea.



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men, without the spirit of prejudice, apply themselves to observe the structure of mountains, the nature of waters, of animals, or of whatever other production of nature, with the sole view to investigate truth.

Description of the Strata of the Promontory MARIAN---Mistake of DONATI.

Between the mouths of the river *Hyader*, now called *Salona*, and of the *Xernouniza*, a rivulet perhaps not known to the ancient geographers, lies a promontory, whose point is formed by the hill *Marian*, and its base by the roots of the *Mosfor*. Coasting along this tract in a boat, I made the rowers often rest themselves, that I might attentively examine the strange modifications of calcareous matter, disposed there in a manner quite different from the laws which the masters of nature use to prescribe, in elaborate discourses on stratifications, without once stirring out of their study. Among many remarkable places on that coast full of variety, which, however, constantly have a cretaceous clayey base, I had a drawing taken of one, in the first creek of the same promontory, where, according to *Peutinger's* table, there was a temple dedicated to *Diana*. Pl. X. The summit of the hill *AAA*, is composed of common *Dalmatian* marble, and of hard lenticular stone interspersed with flints. A large aperture is seen in it, made by the waters of very distant times, when these materials, that now compose the top, were the bowels of the hill, and the denticulations of the interrupted *Strata* are still very discernible. From the exterior parts of these steep tops, large masses of stone are now and then detached, being separated, by little and little, from the whole, by the secret labours of the rain-water, which sometimes undermines and loosens the

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foundation,

foundation, and more frequently multiplies its effects, by progressive filtrations, through concealed crevices and chinks of the marble, till, at last, the apparent continuity is divided. Sometimes, the masses that fall down, either in consequence of the tacit and long corrosion of the waters, or by the too manifest shock of earthquakes, are of enormous bulk, and deceive hasty observers, who are not aware of the revolution. It may also happen, that large pieces of the hill, tumbled from above, may remain insulated, after the destruction of the strata from whence they were separated; and in such a case, an eye well experienced in observation is requisite to discover at first sight from whence they came. In past ages men availed themselves of the vacancies left in the rock AAA for habitations, shutting up the ingress by coarse walls. Of this kind of habitations are those marked BB.

The whole body of the hill, which serves for a base to the marble summit just described, all along, till it reaches the sea, is of a substance very different from the common Dalmatian and Istrian marble; it resembles the argillaceous earth of the internal part of the hills, which overlook the sea coast of the *Castelli* of Trau. The same substance prevails, under the marble strata, all the way from Zara to the fortress of Duare; that is, for a tract of a hundred and fifteen miles, in a right line, exposing itself to view in various places, towards the sea, and sometimes for a considerable space, wherever the interior parts of the hills are discovered. Thus, certainly, any man would be very much deceived, who believed, that “ Istria, Morlacchia, Dalmatia, “ Albania, and some other bordering countries within land, as “ well as the rocks, islands, and bottom of the sea, are all “ formed of one sole mass of an opaque, almost equally hard, “ whitish

"whitish marble of the same grain." * Proceeding forward by water, it is evident that, even along the *Primorie*, the bowels of the mountains appear, in some places more, and in others less compact; and immense strata of marble, very different from the common whitish kind, are seen; besides masses, and less extensive tracts of sand stone, and of marble estimable for the fineness of its texture, or variety of colours.

Perhaps the denomination of *strata* is not very well adapted to such vague, and irregular divisions, as those represented in Pl. X. and therefore I will make use of another word, that pleases me better, although I find the contradictory expression of *perpendicular strata*, which carries a manifest implication along with it, consecrated by the principal oryctological writers. The term of *veins* seems to me the proper appellation in the present case.

Notwithstanding the base of the strata, or inferior divisions represented in this plate, is constantly of argillaceous earth, yet the modifications suddenly differ so much, that they deserve a particular and minute examination. The inclined vein CC is of lenticular grey stone or marble, of a fine grain, divided into pieces, which take as good a polish as any other calcareous marble. In fact, the substance of this stone is perfectly calcareous, being entirely composed of marine fossil bodies. The divisions DDDD are veins of a grey ferruginous matter, resembling the whetstone, without appearance of marine bodies. If a piece of these veins, the continuity of which is divided into small shreds, be taken from its natural position, and examined, lying

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horizon-

* *Saggio di storia naturale dell' Adriatico*. p. viii.

horizontally, the course, which the waters once took across that mass, may be clearly distinguished, as well as the ochreous particles which they deposited, by little and little, in the interstices, till filled up. The work of these ferruginous waters resembles a good deal the reticulated work of the ancients, only it has not the same solidity, as it is easily disjoined, yielding to any moderate force, sometimes to the action of rain water, and to the sea water dashing upon it. (Pl. X. fig. A.) The space EE cannot properly be called lapideous; it consists of a whitish hard clay, inclining to blue, and without mixture of sand; it breaks in small pieces, of a smooth superficies, streaked with *Fluores Pyriticosi Dendromorphitici*. It should seem, that all, or the greatest part of the water impregnated with ferreous ochreous particles, and the sparry atoms which it must have imbibed by soaking the clay just mentioned, had taken its course, and that somewhat rapidly over the irregular way FF, the substance of which is become like to that of the vein CC. Several incrustations of white spar, longitudinally striated, and semi-diaphanous, which, penetrating downwards, divide the smaller veins of the reticulated work, manifestly prove the direction of the water, sometimes saturated with tartarous, and sometimes with ochreous particles. The sea beats furiously against the roots of mount Marian, which, being ill calculated for resistance, are consumed daily. It produces the same effect on the irregular masses of lenticular stone HHH, and makes cavities in them of an oval or round form. It seemed to me, that the salt, introduced together with the sea water, under the porous superficies of this kind of stone, when, in calms, and at low water, it comes to disentangle itself by the action of the air, and of the sun, raises, by little and little, small scales, and dissolves them into sand. This lenticular sand is found deposited in the lower part of every cavity

cavity of the rock, and I did not fail to take a specimen of it. It is remarkable, that this kind of petrification is met with so frequently in the mountains, that great tracts of them may be said to be composed of it, and that the original is hitherto not to be found in the seas. Pliny makes mention of a lenticular sand, amply extended about the famous pyramids of Memphis, and adds, that sand of the same quality is found over the greatest part of Africa.* Hence it seems certain, that some species of sea inhabitants are lost, or that the earth has undergone strange revolutions, whereby some of its parts are now no more under the same climates that they were in more distant times. Besides these small *lenticulares*, mount Marian affords no other petrification, only some rare specimens of the white flattish spiral *Helmintholithus*, with a prominent beak, called by Gesner *Cornu Ammonis candidum, minimum, &c.*

The repeated occasions that I had of passing the promontory of Marian by water, enabled me to observe, with exactness, the nature of its different strata, and, in some measure, to account for the uncommon aspect, which they discover, in several places. A short mile distant from the small creek above described, the rocky shore is raised perpendicularly above twenty-five feet about the surface of the sea, and runs under water in the same direction. The sand stone of a yellowish ash colour composes these strata, which are disposed horizontally, though, at a distance they seem perpendicular, and even, when near, might deceive one who had not long practice, and the most scrupulous attention to oryctological observations. I have frequently heard of perpendicular strata of marine formation, and
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* *Harena late fusa circum (Pyramides memphiticas) lentis similitudine qualis in majori parte Africae.* Plin. Hist. Nat. L. 36. c. 12.

have read the descriptions in more than one book of natural history; but hitherto I have never seen such strata in any place, which, when well examined, and near the eye, have not made me diffident of their apparent perpendicularity. I do not think, that a peice of a mountain overturned ought to serve for an example, that being purely an accidental case; such as the stoney hill of *Salarola*, in the district of *Calaone*, among our Paduan hills. The line of horizontal division of these strata, near the port of Spalatro, is almost imperceptible, if beheld at a distance; and so much the less observable it is at first sight, because, either through the unevenness or disjunction of the inferior strata, or through the filtration of ancient waters, the shore is cut from top to bottom, by large perpendicular clefts, which give it the appearance of an aggregate of pilasters. The erosion of the sea water divides the surface of that sand stone into rhomboidal curvilinear pores, like those in the veins DDDD, Pl. X. and its origin is the same as theirs. The only remarkable difference, which I observed, is, that the channels, or pores, in the sand stone, which surround the rhomboidal divisions, are concave, whereas in the veins DDDD they are prominent.

The different position, or rather sections of the veins, which otherwise are of the same nature, produces this different phenomenon. Those of Pl. X. receive the force of the waves in front, and those nearer Spalatro receive it on a large extent of flank exposed to the sea. The country house of Count Capogrosso, pleasantly situated on the height of the coast, is the confine of this combination which is interrupted by another creek, whose chord is about two hundred and fifty feet. The curve of this creek is formed by irregular strata of sandy clay, of a blue and yellowish colour, semi petrified, and divided in several places by

by horizontal *fasciæ* of stone, which yields to the action of the air, and sea, splitting into pieces of nearly a cubical form. The further extremity of the small creek is of hard sand stone, and forms a little promontory, behind which there is another creek, bounded by a point almost entirely marble. This alteration of clay, sometimes more, sometimes less stoney in the sinuosities, and of hard rock in the promontories, which constantly goes on almost to the mouth of the river Narenta, the marble rocks, that in many places appear above water, or are seen very little under the ordinary level of the sea, and the stoney islands stretched along the continent of Dalmatia, to the right and left of the promontory of Diomedæ, retain such strong vestiges of ancient continuity, that an observer cannot help suffering his thoughts to pursue conjectures, concerning the revolutions which our globe has undergone, and on the different appearances which its parts must have made in remote times.

In the waters that bathe this tract of shore, and receive the small river Salona, there ought to be *Pettini*, as large and of as exquisite taste, as those of *Metellino*, celebrated at the tables of the ancients. Oribasius makes particular mention of them, and adds, that, in the sea of Dalmatia, the most precious *orecchie marine* (*Haliotes*) a known species of the *Lepas*, are found; and he says their sauce is made of Cyrenian liquor, vinegar, and rue.

Of the PORT, CITY, and LITERARY HISTORY of SPALATRO.

On the shore of the port of Spalatro, to the right of the city, lie the numerous habitations, and well cultivated fields of the suburbs. Among these, particular mention is due to the possession allotted for the experiments and meetings of the society
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of agriculture, begun with laudable example, and carried on at the proper expence of a good number of gentlemen, and citizens. It is to be wished, that so noble and useful an institution may not be unseasonably dissolved. The province has but too much need of assistance from the study of husbandry; as not only the culture of the lands, but also the management of the cattle is excessively ill understood, both by the Morlacchi, and the littoral peasants.

At the foot of the walls of Spalatro, from the chinks of certain masses of hard stone full of *enchinites*, and *numismates*, which sometimes are divided horizontally, there issues several little streams of sulphureous water, which often exhale, towards the evening, a very disagreeable smell. They bring along with them, in large quantities, very white broken filaments of liver of sulphur. The stones, among which these streams run into the sea, are all, a few feet distant from the spring, coloured with a silver white, exactly like those in Italy, among which the sulphureous hot streams of *Sermoneta* run, till they lose themselves in the *Paludi Pontine*. But those at Spalatro have irregularities and changes, that deserve much attention.

Sig. Giulio Bajamonti, a learned and diligent investigator of natural wonders, assured me, that sometimes these streams are loaded with common salt; another day they are found to be yellow and sulphureous, then white and calcareous; neither do these variations seem to have any relation to the changes of weather, or of the seasons. Dr. Urbani, a learned physician of Spalatro, and a Friend whom I esteem, has used these waters, with good success, in several distempers, especially chronical. From both these Friends I expect further observations, which,

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I am persuaded, will be worthy of their learning, and reputation.

The port of Spalatro is frequented by foreign vessels, which come there to load merchandize imported from Boffina, such as iron, hides, worked copper, wool, blankets, bees-wax, orpiment, cotton, silk, corn, &c.

All along the shore, the usual variety is observable of clay mixed, sometimes with sand, and calcareous earth, and divided in various ways, by *laminæ* of striated white spar. In the blue semipetrified earth I have never seen the traces of marine bodies, though some specimens are found in the gray and laminated. In some places, and particularly behind the houses in the suburbs, there is a tartarous horizontal-inclined crust, of little thickness, which runs a few inches under the corn fields, where many fragments of land *testacei* are seen. This cannot possibly be confounded with the strata produced by the sea; since it appears manifestly to have been formed by the filtration of eventual waters, and the deposition of their tephaceous parts. I will not pretend to mention the great Roman remains for which this noble city is chiefly known, and celebrated. The lovers of architecture, and antiquity, are sufficiently informed thereof, by the work of Mr. Adams, who has done full justice to these superb vestiges, by his elegant drawings and engravings. In general, however, the coarseness of the work, and the bad taste of the age are equal to the magnificence of the buildings. For all this, I do mean to detract from the merit of the august remains of Dioclesian's palace; I count them among the most respectable monuments of antiquity now extant: yet I would not have sculptors and architects come to study at Spalatro, rather

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than among the ruins of Rome, or the beautiful vestiges of ancient grandeur at *Pola*.

The politeness of the modern inhabitants does much more honour to Spalatro than the magnificent ruins of ancient fabrics. I was, both alone, and in company with our noble Friend, my Lord Harvey, treated there with the greatest degree of hospitality.

The reverend canons did us the favour to let us see some MSS. in their capitular archives, from whence might be extracted, without much fatigue, many informations relative to the history of Illyrium; for there are writings of *Lucio* and *Beni*, of their adversaries, and many other learned Dalmatians.

Among these manuscripts we find a copy of the evangelists, of the seventh, perhaps of the sixth century, sufficiently well preserved. In the first page is the beginning of the gospel of St. John in Greek, wrote in Latin characters; but the copiest transcribed only two pages in this manner, and began again in latin, using the *vulgate* for original.

This city has produced, in all times, men distinguished in letters and sciences. Without mentioning the chronicle writers of the barbarous ages, who, however preserved many precious records, as *Tommaso* the archdeacon, Michele of Spalatro, and others, it boasts, in the best times of restored learning, Marco Marulo, of whom many works are both printed and in manuscript. I have actually in my possession a small MS. of inscriptions illustrated by him; but its authenticity cannot be entirely depended on; in our days more dexterous inventions
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of that nature could be made. Among the archbishops, who held that see, the first place for learning, is due to *Marc Antonio de Dominis*, a native of the city of Arbe, whose memory would have been much more illustrious, if he had contented himself with being distinguished in physicks and mathematicks, and had not chosen to write too much, and to singularize himself in religious matters also. His treatise *de' raggi visuali, e della luce ne' vetri da osservazione, e dell' iride*, and his other, published with the title of *Euripo, o sia del flusso, e riflusso del mare*, deserve the more attention, as they preceded, by much, the celebrated philosophers of our age, who have deservedly gained the highest reputation, by explaining those very doctrines, which the learned prelate had taught. The great Newton did justice to *de Dominis*, from whose small work he drew his first theory of light. I have seen, and one day perhaps may publish, some things in manuscript, which serve greatly to illustrate his talents. Mons. Cosmi, who held the archiepiscopal seat many years after *de Dominis*, left a remarkable writing, *sopra la Bolla Clementina*, which should be among the MSS. of the late signor *Apostolo Zeno*, in the library of the fathers of the *Zattere* at Venice.

Between Spalatro and the river Hyader, at the foot of mount Marian, there are beautiful and pleasant fields; but the earth is shallow, and thence subject to drought; though it should seem no very difficult matter to water it, by means of the neighbouring river. The masses at the foot of the hill, and in the contiguous plain, are of lenticular stone, quite similar in substance, to that which forms the little promontory H H in Pl. X. but it is much harder, and also contains lenticular flints.

Ruins of SALONA.

In going to visit the miserable remains of Salona, one must pass the river two miles to the north of Spalatro, on a bad bridge, very different from that which the Romans (it may be supposed) built there. The Hyader issues from the foot of the mountain of Cliffa quite formed, and needs no adventitious accessions to run into the sea with some dignity. Near its source are found fossil bones, in the usual hard substance, consisting of marble splinters, and red iron stoney earth, of which some specimens are preserved, in the archiepiscopal palace, by Mons. Garagnini, a pious and hospitable prelate, and a father of the poor. He has also been of service to natural history, by his kind reception of my Friend Professor Martin Brunnich of Copenhagen, who in testimony of his gratitude, dedicated to him a treatise on the fishes of the Adriatick.* The city of Salona, which was so great, both before and after it was subjected to the Roman yoke, is now a wretched village, preserving few distinguishable remains of its ancient splendor. Doubtless, the two last ages have destroyed all that had escaped the barbarity of the northern nations, that demolished it. I find in a valuable MS relation of Dalmatia, written by the senator Giambattista Guistiniani, about the middle of the 16th century, a hint of what existed at that time.

“ The nobility, grandeur, and magnificence of the city of
 “ Salona, may be imagined, from the vaults and arches of the
 “ wonderful theatre, which are seen at this day ; from the vast
 “ stones

* Mart. Th. Brunnichii *Ichthyologia Massiliensis*, & spec. Ichth. Madr. &c. Hafnæ & Lipsiæ, 1769. in 8vo.

“ stones of the finest marble, which lies scattered on, and buried
 “ in the fields; from the beautiful column of three pieces of
 “ marble, which is still standing in the place where they say
 “ the arsenal was, towards the sea shore; and from the many
 “ arches of surprising beauty, supported by very high marble
 “ columns; the height of the arches is a stone throw, and above
 “ them there was an aqueduct, which reached from Salona to
 “ Spalatro—There are to be seen many ruins and vestiges of
 “ large palaces, and many ancient epitaphs may be read, on fine
 “ marble stones; but the earth, which is increased, has buried
 “ the most ancient stones, and the most valuable things.”

The inhabitants of the village, that arose from the ruins of
 Salona, too frequently dig up inscriptions, and other works of
 ancient artists; but their greediness is so proportioned to their
 barbarism, that they rather chuse to break and spoil every thing,
 than to sell it at a reasonable price. I endeavoured to save some
 fine *lapides* newly discovered, from the brutal hands of a peasant,
 who had already spoiled many others, of which we saw the
 fragments, to make door and window cases for his cottage; but
 his avidity prevented my designs at that time, and I was
 obliged to content myself with copying them.

A curious citizen of Spalatro has collected a great number of
 Salonitan inscriptions not published, but I could not obtain
 them from him. He intended them for the illustrator of those,
 which, for the most part, are found deformed in Vol. II.
 of the *Illirico sacro*; and I dare not complain that so cele-
 brated a man was preferred to me, because I have no
 thoughts of engaging myself to explain them diffusely, as such
 an undertaking would carry me too far from my principal
 object.

object. I would have, perhaps, neglected ancient remains altogether, if the respectable example of M. de Tournefort had not encouraged me occasionally to take notice of them. Having observed how easily and frequently they are mistaken, who write, and set themselves up for illustrators of antiquity, without having made long and regular researches, I have taken the resolution to put all my gleanings into the hands of my learned Friend Count Abbe' Girolamo Silvestri of Rovigo, and shall continue to do so with whatever may fall into my hands in future tours, relative to antiquity. The danger of destruction daily threatens every thing of this nature scattered over Dalmatia; and even for this lamentable reason, I thought it my duty to say thus much. You, far from condemning me, will certainly approve of my diligence, which, at least, will mix a little not disagreeable variety with the tiresome dryness of fossil matters.

If the mournful ruins of Salona were not sufficient of themselves, to determine the precise situation, where it lay, on the banks of the sea, this would be very clearly indicated by Lucan.

*Qua maris Adriaci longas ferit unda Salonas,
Et tepidum in molles zephyros excurrit Hyader.*

The text of Cæsar, where he places Salona *in edito colle*, must be corrupted, for it cannot be imagined that he was ignorant of the true situation of those places.

This small river, that does not run above three miles, obstructed, here and there, by tophaceous banks, nourishes in its mossy grotts, an exquisite species of trout. Hence some author,
who

who must have been a much better judge of good eating, than of the actions of great men, took occasion to write, that Dioclesian (acting worse than Esau) renounced the pleasure of commanding almost all the then known earth, to eat quietly his bellyfull of these fishes, in his magnificent retirement at Spalatro. I know not if Dioclesian was as great a lover of fish, as he was of herbs; but believe, that Spalatro, without any motive of gluttony, must then have been a delicious habitation; and, to strengthen this belief, I imagine the neighbouring mountain to have been covered with ancient woods, which, in our times, by its horrid bareness, reverberates an almost unsupportable heat in the summer days. It is certain, that a turn for philosophy, and perhaps, a trait of wise policy, was the motive of Dioclesian's retirement. He lived ten years in tranquillity at Spalatro, and perhaps would have enjoyed a longer life, if the letters of *Constantinus* and *Licinius* had not come to disturb him. Notwithstanding all the ill that the christian authors have written (one copying the other) of this Dalmatine Emperor, perhaps with greater piety than impartiality and truth, it must be confessed, that he was a man of extraordinary merit. He mounted the throne without any effusion of civil blood, led to it by his own virtues; and after a reign of twenty years, gave perhaps the greatest example of philosophical moderation, that ever was heard of in the world. I reckon it a singular honour to Dioclesian, his having been praised by Julian, among the Cæsars, as he certainly would not have spared him, if he could have said any thing to his prejudice.

Of the Mountain of CLISSA and of MOSSOR.

To the right of the Hyader rises the mountain, which commonly bears the name of Clissa, from the fort that stands on one of its

its sides. The substance of this mountain, sometimes grey, sometimes bluish, of unequal hardness, as well as the nature of its strata, is the same as those already described in this letter. The masses fallen from the top, which are met with on the road, are sometimes of common Dalmatian marble, sometimes of very hard gravelly *breccia*, and sometimes of hard lenticular stone.

It is very curious to observe some strata, which compose a prominent side of mount Mossor, flanking the road of Clissa, to the left of the deep valley, through which the Hyader runs. They present, to the eye of an observer at a distance, many divisions, that describe segments of a circle, placed one above the other, with the extremities turned downwards, diametrically opposite to what is commonly observed in the disposition of curve strata. Whoever might pretend to judge of this at a distance, would act imprudently, and run the risque of giving some ridiculous explanation; as is too often the case with even the greatest naturalists, when they undertake to unfold some strange phenomenon, upon a superficial inspection, or according to the accounts of others: like that good man who wrote the natural history of the Swiss Alps, without ever travelling to observe them. The erection of the extremities of the strata of Mossor is a deception of the eye, by the distance and inferiority of the situation, on which the observer stands. The first time I passed, I believed this to be one of those unaccountable phenomena, whereof the ancient sea left impressions within the bowels of the mountains, and which time and torrents sometimes discover, to torment the brain of naturalists. But the distant aspect had deceived me. The apparent extremities of the semicircles are not so in fact, but only points of the circumference of these discovered

covered strata, which are insulated by the eventual waters, and from the top to the bottom of the accidental hill, or prominence, are laid horizontally one above the other. The insulated rock, on which Clissa stands, is, for the most part, of marble *breccia*, of submarine origin, since little marine insulated bodies are found among the small stones. The small stones themselves, that form the *breccia*, contain *lenticulares* of much anterior date to the stoney substance in which they now are. The base of the rock is of whetstone, like that on the sea coast of Spalatro already described, between which, and the marble, there runs an irregular vein of calcareous hard stone full of calcinated *Tefacei*, and frequently pieces of bituminous petrified earth.

In the *breccia* are seen some little black stones, productions of distant and ancient volcanos. On re-examining the prominence of this hill, from a situation of equal height, I saw that it had been divided in part from the rest of the mountain, and that its strata correspond, both in direction and substance, to those of the mountain. The arcuated strata continue to deceive the eye, till the observer comes within reach of seeing them horizontally; then the illusion vanishes.

The fort of Clissa is undoubtedly the *Ανδριον* of Dion Cassius, and the *Mandetrium* of Pliny. The first of these ancient writers describing the siege and attack under the command of Tiberius, circumstantiates its situation minutely, saying, "that there was no plain of any kind near it, that the hill was inaccessible, steep, "and intersected by cliffs." He adds, that "Tiberius, finding the reinforcements that repeatedly came up from the "camp at Salona to sustain the Romans, unsuccessful, detached "a body of troops, through craggy paths, to gain the heights
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" which commanded *Anderion*, whereby the Illyrians, being exposed on both sides, the fort was obliged to capitulate."* *Cliffa* is now in fact at no great distance above *Salona*; built on an inaccessible rock, surrounded by cliffs, and hollows, and commanded by the top of the mountain. Pliny speaks of *Mandetrion* as a place famous for deeds of arms. *Cliffa* has been too much so, even in the times near to us, and would be so again, if the scourge of war was felt in *Dalmatia*, on account of its situation on a narrow and important pass.

Spon, in his voyages, transcribes an inscription seen by him at *Trau*, in which mention is made of repairs done to the road, between *Salona* and *Andetrion*.

Of the Country inhabited by the MOREACCHI, between CLISSA and SEIGN. The valley of LUZZANE—and concerning GIPALOVO VRILLO.

Passing beyond *Cliffa*, ten or twelve miles within the province, we traversed a country sometimes high, sometimes low, but almost always equally rough, and thinly inhabited. The crags of *Clapaviza*, the descent of *Cozigne Berdo*, the stoney valley *Dracaniza*, uncultivable, though plain, and the mountain of *Cirfiza*, are tracts of horrid desert capable of cooling the most fervid travelling naturalist. All the the descent is of marble, dangerous for horses, as they can hardly walk on it; and the whole valley is disastrous, on account of the many sharp rocks, which form the pavement. A few tufts of ill grown trees, and many thorns, from which it takes the name of *Dracaniza*,† produce

* Dion Cass. Lib. 55.

† *Draca* a thorn, and particularly the *Paliurus*.

duce a worse effect, than its native rugged barrenness would do, because they interrupt, and render still more incommodious the unpleasing road.

At the foot of the mountain of *Crifiza* lies the beautiful valley of *Dizmo*, which affords good pasture, and the soil is not unfertile; it has about ten miles of circuit, altogether surrounded by hills. It is not cultivated, though it might easily be so; but the Morlacchi are very far from understanding good agriculture, and indeed they know little of any kind of it. From *Dizmo*, by *Xenski Klanaz*, then over mount *Mojanka*, and at last by *Cucuza Klanaz*, we descended into the large fine plain of *Seign*, which is watered by the *Tilurus*, now called *Cettina*; a tract of country of which I shall have occasion to speak again, when I give an account of the head, course, and mouth of this river, from which, in former times, the district of *Cettina* took its name.

It is no rare thing, in the interior part of the country inhabited by the Morlacchi, to find hills, lakes, and territories, which preserve, in their name, the memory of some signal action. Of this number is the road called *Xenski Klanaz*,* and the mountain *Mojanka*. There is a song, traditionally preserved among the Morlacchi of those parts, that relates the doleful case of one, whose mistress was carried away by force, and was called *Anka*. He sought her over all the mountains in the night time, calling aloud *Moja Anka*, i. e. my Anka, whence the mountain took the name it still bears; and several places, in that neighbourhood, have names relative to different circumstances of the story.

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* *Xenski Klanaz*, that is, the narrow pass of the woman.

After a day's journey through that frightful ill inhabited country, we arrived at *Seign*, a fort situated near the river *Cetina*, which I shall mention more particularly in another place.

A traveller unwilling to pass the same way, on returning from *Seign*, to *Spalatro*, may take the road of *Radoffich*, which lies somewhat more towards the north than *Mojanka*; but before he proceeds directly on that road, a naturalist will certainly turn a little out of his way, in order to see the valley of *Luzzane*, and the den or torrent called *Gipalovo Vrilo*. In these places, separated from the sea by a vast chain of mountains, at least sixteen miles broad, are found the most distinct proofs of the ancient seat of sea waters; and, perhaps, no less indisputable proofs of the habitations of men, upon the strata, which now form the internal strata of the mountains. The valley of *Luzzane* is flanked by low hills called *Glavize* in Illyrian. These lie at the roots of a high stoney mountain, and are formed of barren marine earth, sometimes of a whitish, and sometimes of a blueish colour, disposed in very regular strata, full of fossil turbinated shells, and, in some places, of white, shining, semi-calcined, exotic Bivalves. On the superficies of a stone, not above four inches square, I counted above forty of the same species and size. All the strata, however, have not an equal abundance, nor are they all of the same consistence and colour. In some of them are found fossil vestiges of the *Alga marina*, and some little bits of the coal of burnt plants. But the most remarkable difference, that is observed in this marine earth, is the very great inequality of weight. For of two pieces of equal bulk, taken from two different strata, and full of marine bodies, that which contains the bits or straws of coal, weighs only half the other, and resembles the cineritious pumices of Volcanos,

canos, though it does not shew the same exterior porosity.

These little coaly or burnt straws are not at all impregnated with sulphur; are easily pulverised, and tinge with black, like any other burnt straw. I remember to have observed similar bits of coal, in a solar green ferruginous earth, found in the volcanic matter of *Monte Berico* near Vuenza. The strata of the hills of *Luzzane* are of a middling hardness, and so well divided by horizontal inclined lines, that large flat plates like those of *Ardesia*, or *Lavagna*, might be taken from thence. The little channels, cut by the rain water, on the back of these hills, in descending into the valley, discover the internal texture, and the disposition and colour of the strata.

Half a mile further on; towards the narrow part of the valley, one meets the bed of the torrent called *Gipalovo Vrilo*, or the stream of the family of *Gipal*. This carries along with it a very great variety of matter. Among its gravel there are *Pyrites*, and *Etites*, in which the marine bodies remain white, resisting the dissolved iron. There are great quantities of black flints, and of all other colours; pieces of very fine Agate full of marine bodies; large pieces of whetstone, *breccia*, and various kinds of simple calcareous marble, brought down from the mountains. Besides all these productions of mineral and marine mountains, there are vast numbers of compact heavy pieces of *Lava*, sometimes black, sometimes grey, fossil coal, and bituminous scissile earth, black as the *Gagates*, and full of very white marine bodies. Various horizontal inclined veins of this earth appear along the bed of the torrent, having, both above and under them, other strata of marine earth, not very compact, but commonly full of *Testacei*. Further on, the bed, which becomes
narrower,

narrower, is, in several places, totally excavated in the bituminous earth; but generally the veins are alternate. As, above the little hills of the valley of *Luzzane*, a stoney hill arises, so, above the strata divided by *Gipalovo Vrilo*, a larger hill is raised, composed of the various matter that the torrent brings down, when very full. Upon the utmost border of the ampelite earth, which ceases to discover itself below a fall of the torrent, where various ferruginous masses have tumbled from above, are found the roots and trunk of a tree three feet in circumference reduced to a fossil coal. When I was there, it stood in its natural position, and, from the foot of the trunk, I could observe the roots spread, perfectly entire even to the smallest parts. Some of those which I brought away with me, resemble the *filiquæ* of *Carrubbio* in figure; but are entirely of the nature of coal, and of a very shining black colour.

The particularity that distinguishes this coal trunk, from the great quantity of other fossil wood found in the mountains, is, its having been cut, little more than a foot above the roots, by a hatchet, or some other similar instrument, before the marine strata covered it. The repeated examination of its situation, and of its actual state, leaves no room to doubt of this ancient truth.

The veins of marine earth separated by the torrent, run regularly about five feet higher than the situation occupied by the roots and foot of this trunk. There are rents in the root of it, through which the bitumen has insinuated itself. It was also almost buried under ground, when I, with my own hands, taking away the earth, set it in open view, induced by the suspicion, which the natural situation of the roots raised in me. I leave to those, who are more knowing than myself, to decide by how ancient a hatchet this tree has been cut, and in what times those lands have been covered by the waters of a sea now far from us, and
which

which has left behind it such a prodigious quantity of exotic *Testacei*.

The fossil coal, and the ampelitic earth of *Gipalovo Vrilo*, though at several miles distance from the sea, might be made useful articles, were it only for the distillation of spirits, in which the woods on the sea coast are fatally wasted.

Concerning the Mountain SUTINA, and the adjacent places.

Entering again into the road that leads to Spalatro, we turned a little to the north, that we might not return by the same way by which we came. About *Radossich* are seen the ruins of mountains overwhelmed, and large masses of marble, insulated, out of their natural situation. They stand on strata of marine earth; but it is not easy to guess, whether they fell, when the waters covered these places, or were overturned by an earthquake, after their recession. There is a great variety of marine bodies among those ruins; and, along the roots of the mountain of *Sutina*, in the deep bed of the torrent, which goes on wearing the foot of the mountain, the minute *breccia* maculated with black, is common; and the spotted, the brown, the white and black, and the peach-coloured, are not rare. This mountain, whose top is of *breccia* composed of fluitated gravel, has its middle composed of a calcareous and micaceous state, of different hardness and degrees, of a reddish colour, more suitable to mineral than calcareous mountains. In one stratum of this state, which splits into very thin *laminæ*, uncommonly brittle, I saw the impressions of *Tellinæ*. Having passed this mountain, we came to *Hamuch*, or upper *Mutch*, a small hamlet built on the porous *breccia*, which is not fit for noble works. I saw there, in heaps, many plates of marble, or slatey calcareous stone, brought from I
know

know not what part of the mountains. In some of these are confined and petrified the shells of *Vermiculi*, and branches of *Madreporæ*; others are a composition of *Tellinites* and *Anomitæ*, deeply striated, like those which are frequently found petrified in the Veronese hills. * A piece of this slaty marble, which I brought away, being polished, became variegated, scattered with white stars on a dark ground, which are nothing else but the horizontal sections of small columnar angular *Asteriæ*. † On one side of this marble in its natural state the fossil shells appear prone, and on the other only their concave impressions are seen.

Below the hamlet, there is a plain of a moderate extent, which I crossed over to go to read an inscription dug up a few months before.

The most remarkable thing which I saw there, were some large masses of *breccia*, stained with violet and other beautiful colours. Magnificent columns and monuments might be made of this stone, if the place were not so far from the sea, and the intermediate roads were not so impracticable. An ancient *breccia*, much resembling this, is seen at Rome in some of the noblest works; and it is known among the artists by the name of *breccia corallata*. Who knows, if in past ages, a country so much inhabited by Roman colonies, and frequented by their armies, had not commodious roads, of which we have now lost not only the vestiges, but even the memory?

Our

* *Helmintholithus anomi deperditæ novemstriatæ*. Linn. Syst. Nat. iii. p. 163.

† *Helminth. Isidis Asteriæ*. Linn.

Asteria columna angulis obtusis. Scheuchz.

Our guides conducted us over the two vallies *Gbislovaz* and *Prugovo*, to put us in the road of *Cliffa*. The figure of these vallies is circular, and they are quite surrounded by mountains. It should therefore seem, that they ought to have a deep and rich soil; but it is far otherwise. They are plain, yet the earth is so shallow and so full of sharp rocks, that they look like the summits of ancient and bare hills sunk for want of foundation. Vallies of this kind are not uncommon in cavernous regions, under which are running rivers; and the waters collected together from a vast superficies lose themselves. The large valley of *Prugovo* becomes often a deep lake, in time of winter, and dries up by degrees towards the end of spring. The river of *Salona*, which issues full formed, from the bottom of the mountain, and that of the mills of *Trau*, probably owe their original and increase to the waters, that fall underground, from this, and other similar vallies.

Of the Ruins of EPETIUM, and of the Fossils found in that Neighbourhood.

Six or seven miles to the eastward of *Spalatro*, and three miles from *Salona*, lie the ruins of the ancient *Epetium*, a colony of the *Iffei*. The place is now called *Stobrez*. Near the road thither by land from *Salona*, are several arches of *Dioclesian's* aqueduct, vulgarly called *ponte secco*, and above it is an insulated mass called *Kamen*, i. e. the stone, by way of excellence, where in former times, a small fort has stood, as may be deduced from the vestiges of the walls that still remain.

The situation of *Epetium* was very beautiful. The city stood on the sea side, but on a plain much above the level of the wa-

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ter. The pleasant little river of *Xernouniza*, * of which I have not hitherto been able to find the name among ancient geographers, falls into the harbour, capable from its extent, of receiving many small vessels ; but in our days, the water is shallow, perhaps by the mud and stones brought by the river abandoned to itself. The adjacent fields, though ill cultivated, are delicious. The Turks had made salt pits there; but after the country passed from the Ottoman yoke to the Venetian government, they were abandoned. Yet that tract of plain, which was occupied by the salt pits, is neither damp nor unwholesome; and it invites some industrious and intelligent person, to make a trial how valuable the perennial water of the adjoining river, the sweetness of the climate, and the open warmth of the shore, might be made.

On the banks of the small harbour of *Stobraz* the vestiges of the ancient walls of *Epetium* are still distinguishable; and appear to have been built of solid materials, but without that nice connection, that is admired in the Roman fabricks. A subterraneous passage, of which the mouth remains in its primitive state, extending far under the buried ruins of the city, seems to have served in ancient times, for an outlet to the waters. Near the parochial church, which is a good quarter of a mile distant from the shore, appear the foundations of a tower, which flanked *Epetium* on that side; and the church itself is built on those old foundations.

I flattered myself to find here some valuable Greek inscriptions, and with that view, searched every corner of the village, but all in vain. I saw the fragments of some Latin inscriptions of no value; and was obliged to content myself with copying the only
one

* *Xernouniza* takes its name from *Xarn*, which in Illyric signifies a mill.

one entire, which I found in the pavement of the church. Very probably the inhabitants may have concealed some others, as they are habitually suspicious of strangers, and particularly of Italians; and indeed to tell the truth, they cannot be much blamed.

The river *Xernouniza* has but a short course: It takes its rise from small beginnings, between *Squercich* and *Dubrova*, near the foot of mount *Mosfor*; has a fall not far from its source, then turns several mills; and after a course of five miles, falls into the sea. Its waters nourish variety of fish of exquisite taste, and those of the sea also love to resort about its mouth. Hence the inhabitants of *Stobrez* go wading barefooted in the harbour to fish, though indeed it ought rather to be called to hunt, as they pursue, strike, and kill their game with iron pointed spears. I resolved to go to the small village of *Xernouniza*, both to examine the course of the river, and to see some inscriptions, which I was told at *Stobrez* are in the church. The journey was little more than three miles. The first hill in my way stopt me to observe the immense quantity of loose *Nummales*, which cover the side of it. I collected a good many, perfectly entire, and of a remarkable size. Some of them are compressed, and also with the spiral outwards; and among them may be collected fragments of *Ostracites*, and rostrated *Helmintholithi*, like the white *cornu ammonis*, and of the same species that is common enough in the argillaceous earth of *Brendola* and *Grancona* in the Vicentine hills.

The children of the country render good specimens both of *Nummales* and *Helmintholithi* scarce, by gathering them for play. They are perfectly acquainted with the proper time of collecting, and never fail to repair to the places where they are found after

the great rains. Just so, in the Paduan hills, between the heights of *Venda* and *Rua*, the girls use to collect the *Entrochi*, or columnar *Asteria*, found there in abundance after a thaw of Snow, in order to throw them unobserved, into the fire, and to divert themselves at the surprise, and sometimes the fright, which their sudden crackling like sea salt causes in those who are present. I went twice up to those heights, on purpose to make a collection, but soon perceived by the scarcity, that many hands had been there before me.

The hill divided by the waters of the *Xernouniza* is of sand stone, of a grey or bluish colour, without apparent marks of petrifications. The left side of the river is craggy, horrid and impracticable: the other is cultivated, or at least planted with vines and fig-trees. The insect enemy of this last kind of fruit was, at that time, so prodigiously propagated, that on one fig, not bigger than a common nut, I counted above seventy new galls; and on one leaf alone a hundred and fifty-seven: the branches were quite covered with them. Arriving at the hamlet of *Xernouniza*, and clambering up to the Curate's house, in the condition of a man who had walked in haste, under a burning sun, and at mid-day, over a steep and stoney road; I desired my honest guide to make my request known to him, not daring to do it myself, for fear of offending his ear, by the bad pronunciation of a few Illyric words. But the inhospitable and suspicious priest refused absolutely to open the church, nor would he yield to all the intreaties that were made him with the greatest humility imaginable. All his answer was *neciu*, "I will not," to whatever the guide and I could say to him. Such brutal behaviour made me lose all patience; I was no longer ashamed to
speak

Speak Illyric; and on going away I could not help breaking out in all the abusive terms I knew, against that iron hearted man. The good curate let me go on, and peaceably shut himself up in his cottage. This was the first and greatest, nay almost the only instance of inhospitality that I met with in Dalmatia; but I was very sensible of it, and could not help mentioning it particularly.

May Heaven preserve you, Sir, from such brutish, and savage treatment, among the mountains which you visit, and from which, whatever tour you make, you will certainly bring many observations and important discoveries, which the republick of naturalists will always wish for with reason! For my part, I wait impatiently for your return to Italy, being attached to you not only by the chain of our mutual studies, but also by the veneration I have for your superior talents and merit; for which I love and esteem you above all the naturalists I know, not one of whom can equal you in acuteness of observation, exactness in examining, resolution in determining and perseverance in prosecuting your physical researches.

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T O
S I G N I O R M A R S I L I,

PROFESSOR OF BOTANY IN THE UNIVERSITY OF
PADUA, FELLOW OF THE ROYAL SOCIETY, &c.

Concerning the River CETTINA, the TILURUS of the Ancients.

SUSPEND a while your continual and indefatigable botanical labours, my learned and dear Friend, and travel with me along the unfrequented banks of a river now but little known, though in former times the residence of many brave and eminent Romans. I invite you to cross the rocky mountains, which divide from the sea, the beautiful interior parts of Dalmatia, at present inhabited by the Morlacchi; but your journey will be much less fatiguing than mine. You are a lover of every kind of science, and therefore I may flatter myself, that you will not read without some pleasure, the various details that occurred to me to the right and left of the Tilurus, from its sources to its mouth; and that you will not find fault with the few digressions, which the analogy of matter may occasion. I have endeavoured not to be tedious, and I hope not unentertaining; but if my endeavours should prove unsuccessful, you can always when you please, lay aside this letter; for I am not so unreasonable as to expect, or wish that a man of your universal acknowledged merit should lose his time on disagreeable or useless sub-

subjects. Your hours, I know are precious to the republick of letters, and therefore I do not pretend to engross them; a few detached broken minutes are sufficient for me.

Of the Sources of the CETTINA.

Contiguous to the hamlet of *Jarebiza*, and three miles distant from *Verlika*, at the foot of a hill of marble, are the four principal sources of the *Tilurus*, called Cettina by the present inhabitants; which sources, after a short course, unite together at a place named *Vrilo Cettine*. The territory through which the river runs, had in past times the title of county of *Zapania*, and depended on its particular petty prince. But there never was any city there called Cettina, and much less is there at present, though named by several geographers, and particularly by M. Busching, together with the addition of a lake that exists not. *Porphyrogenitus* called the *Zapanca* of Cettina *Zentzena*. The first time that I saw the sources of this river, in company with the Lord Bishop of Derry, two of them appeared to me to merit particular attention. The hills that lie between the mountains of *Kozjak* and *Dinara*, and surround the fine plains of Cettina, rising in height as they extend farther back, are united at last to mount *Herfovaz*. The exterior appearance in several places, denoting the irregularity of the strata whereof these hills are composed, gives ground to suspect that they may have been ruins of ancient mountains; yet I cannot take upon me to assert this positively, though I observed them with attention, but a more particular examination would be necessary on the heights.

The

The source which we first visited is a hundred paces from the hamlet; and the base of the hill forms a semicircle about it. The clear small lake that lies there, almost hid by the rocks, and shade of the trees, is about thirty feet diameter. The inhabitants pretend that its bottom cannot be fathomed; we threw into it many white stones of various sizes, and quickly lost sight of them. The water of this lake has scarcely any visible motion; yet, following the declivity, it issues with rapidity, and forms a considerable stream below. A prodigious number of trouts, some of which weigh twenty five pounds, issue with the water, from the interior parts of the mountain, and many other species of common river fish are also seen; but the aperture, that serves them for a passage, is not accessible, nor, on looking horizontally, can it be seen from without. In order to discover it, one must stand on one of the steep extremities of the semicircle, and look down. About six feet below the superficies of the lake, a ridge of marble appears through the water, in form of a large irregular arch, which juts a good way outward. Under this the water has its vent, and its vertical motion, which on the superficies appears little or nothing, is discovered by the inclination that stones thrown into it take in sinking. The other source, not far distant from the hamlet, on the opposite side, is of somewhat larger extent, and also in the form of a lake girt round, like the other, by the marble strata of the mountain. Its banks are not so fresh and shady as those of the first; they say it is exceedingly deep in the middle. A little river is likewise formed from this lake after a very short course, and which would not be inconsiderable by itself, but becomes large when joined with the other, and two more streams, besides several lesser rivulets which run towards the plain from the same mountain.

A SUBTERRANEAN VOYAGE attempted.

The great quantity of water, flowing from the lakes, and other less considerable sources, concurs to form the river Cettina; its issuing from a mountain much smaller than those that use to give origin to noble rivers, and recollecting the marble *breccia* of which the tops of the Illyrian mountains are composed, made us strongly suspect, that the waters which we beheld were not the true sources of the Cettina, but only branches of some subterraneous river, whose ancient bed, perhaps, in very remote ages, were the high continued plains, which, after a long series of violent changes, became the tops of mountains. My Lord Bishop, having lately visited the Bellunese territory, and particularly those places where the fall of mountains frequently interrupted the course of rivers, remarked the hanging vestiges of similar ruins on the sides of *Kozjak*, *Guat*, and *Dinare*, which plainly shew, that the interruption of their strata has proceeded from some vast sudden sinking, or perhaps from a succession of them. This reasonable and well grounded conjecture, made us determine to penetrate, as far as we could, into the caverns which wind through the internal parts of the mountain between the two lakes just described. Some of these caverns, notwithstanding their ruggedness and obscurity, were, in other times, frequented by a Banditti, perhaps as fierce as wild beasts; and there are still to be seen the vestiges of a wall coarsely built to render the entrance more narrow and secure. It required savages indeed, hardened to a great degree, to clamber into these horrid recesses; yet, notwithstanding the difficulty, I forced myself into them more than once, that I might examine, at my leisure, though not at my ease, the structure of these marble mountains. Many of these narrow chasms and holes run be-

tween

tween the pieces of subverted strata, where one must ascend creeping on hands and feet, without being able to raise the head for a long space. In one of these holes, near the outer aperture, the surface of the inferior, as well as the superior mass, which serves for a vault to the narrow passage, is all scattered with hard and sharp pointed *stalactites*; and farther up, the marble is become so smooth and slippery, by the frequent treading of ancient thieves, or savages, that I could not go on without the greatest fatigue. Having passed these straits, I got into places less impracticable, though always equally frightful, and rendered still more dreary and uncomfortable where they are most spacious, through the blackness, and dirtiness of the smoaky walls. The barbarians, who inhabited those dungeons in past ages, must have been often exposed to break their necks, or to be suffocated by the heat and dense smoky, raised by lighted pieces of cleft fir which are used as candles in these infernal mansions.

A journey into the cavities of mountains, and examining, from stone to stone, in those subterraneous mazes will certainly contribute to furnish juster ideas concerning the interior structure of that part of our globe nearest to the surface. There nature may be discovered, as it were, at work, and abundance of materials may be collected for the establishment of good theories, or, at least, for destroying those that are ill grounded. In this respect, I have hitherto not been very fortunate, as all the natural caverns of calcareous mountains which I have visited, resemble one another. Yet I hope, one day or other, to find something beyond this usual uniformity, by visiting mineral mountains that have not yet been opened by men. What instructive lessons of natural chemistry may be found written in their dark caves! After examining, some-

times, the systems, and classical distributions of the most celebrated naturalists, and comparing the fossils with the descriptions relative to their production, I could not help thinking, that nature has been but ill interpreted by her chief priests and panegyrists; and hence I may venture to affirm, that the subterranean part of natural history has still need of much improvement, and of many observations well ascertained by unprejudiced men, in order to form any tolerable idea of it.

Among the peregrinations under ground, which may give some pleasure to the lovers of physical geography, that which we made in the largest cavern of the fountains of the Cettina, is entitled to a place, as it furnished something more than our other subterraneous travels in the bowels of these calcareous mountains. Near the mouth we could walk a little way erect, but were soon obliged to bend ourselves, and then lie down and creep along a narrow, rough, and dirty path, well calculated to blunt the edge of ordinary curiosity. The common fillicidious works which abound here, are as various and multiplied as can be desired in narrow places, where there is not room for magnificence, as in the grotto's of Antiparos, and the Baumanian cavern in Germany. The most curious, though not the most frequent *lusus naturæ* to be seen, are certain vases, as it were fashioned like large imbricated shells; one of which, that I particularly observed, has the divisions above half a foot broad, and very nicely formed. These do not rest upon the ground, but proceed from the centre of the vase bending outwards. The vase is not above four inches thick, but capable of containing a great deal of water, it being near three feet high. No art could form a piece more beautiful for decorating a fountain, or grotto in a garden; art, I say, that endeavoured to imitate nature, and not

not to adorn it. The same waters that, falling from a height of little more than two feet, formed the imbricated vase so regularly, make also models of fortifications well understood, hollow in the middle, and surrounded with little bastions, and walls not above three or four inches high. I would not have you think that our imagination made us find in these works a perfection which they have not; nature has really executed them in so masterly a manner, that they deserve particular attention. She has here been still more exact than in forming the *Pietra Matematica* at Martignone not far from Bologna. In creeping over the cavern, we met with some little pools, in which great quantities of saline *laminæ* lay in heaps. They are very white, and of a calcareous spatous nature; and after having been extended on the surface of the water like a stoney veil during a long succession of time, have successively sunk to the bottom, to leave room for the formation of other similar *laminæ*. This curiosity * I have also seen several times in the vast stone quarries of Costoggia in the Vicentine. Many small tubes of equal candour and brightness arise here and there immediately under the drops most impregnated with stalactitic parts like alabaster, and which actually appear, at first sight, sprung out of the earth like asparagus. Their shiuey brightness bears a greater resemblance to snow than to refined sugar. The appearance of vegetation that deceived the celebrated Tournefort, and, more recently, the learned *Passeri*, author of the fossil history of the territory of Pefaro, did not impose upon us. The French naturalist was not so well skilled in lithology as he was in botany; and hence
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* V. Arduini, *Lettere Orittografiche*, in vol. VI. of the *Nuova raccolta d'Opuscoli*, published periodically in Venice by *Simone Occhi*. These letters, and several other pieces of various Italian authors, treating of fossil natural history, deserve to be reprinted, and rendered more universally known, and useful.

he ought not so much to be blamed for believing that to be real which was only apparent; and our Italian philosopher is still more excusable, who, confiding in observers much less acute than himself, planted his deductions on facts not well demonstrated. Yet he is very far from the prejudices of the schools, who, following too literally the good old Pliny, admitted the faculty of vegetation even in the stones; for of all the species of marble this stillatitious calcareous alabaster appeared to him the only one to which vegetation could be granted, denying it clearly and expressly to the others. The little hole which the columns usually have in the centre, and their rising from the floor of the caverns; the assertion made to him that no water dropped from the vaults of the grottos; with some other inaccuracies of observation, induced him to offer, though with the greatest modesty, whatever his happy genius could suggest to explain the genesis of those insulated bodies. I have read with much pleasure the ingenious conjectures of our eminent Pesarese philosopher, before-mentioned, whom I love and respect; but my observations, contrary to those that were communicated to him, did not permit me to be of his opinion. The longitudinal hole appears equally in the tubes that rise from the floor, and in the stalactitic *striae* that hang from the vaults of the caverns, and whose origin is manifestly seen. If the water did not filtrate from the vaults when this naturalist's correspondents were making their observations, it must have been in dry weather, as they would certainly have perceived the dropping in rainy days. Thus, at Venice, under the arch of the Rialto bridge, and from the front of the Jesuits church, the *striae* are suspended, and the water runs along and augments them after the rains.

The

The frequent manifest disruptions, and partial ruins of ancient *strata* of soft stone, or calcareous marble, which appear in these caves, confirmed us, at every step, in our opinion that a subterranean river had corroded their bases. In fact, having advanced forward some time, we came to a natural bridge, formed by an arch between two *strata*, under which the eventual waters of the neighbouring mountains have their outlet, and have excavated an ample subterraneous canal between the *strata*. There my Lord Bishop chose to rest himself while we proceeded forward; and in the mean time, with a presence of mind which philosophers often have not, he sent back his Morlacco guide for a further provision of fir laths to light us the rest of our way. The above-mentioned bridge is only twelve feet wide, and about as much in length. It looks like a model of the bridge of *Veja*, first described by Sig. Betti, and since by me; * and serves to demonstrate, that my illustrious friend, Brigadier *Lorgna*, well known among the mathematicians, explained, better than any other, the manner whereby such natural works of architecture are formed by means of corroding waters. Perhaps this too would pass for one of Nature's caprices among those who believed that she had made all that tract in the Veronese hills *di getto*, that is, of cast matter. For the defence of one fundamental extravagance naturally produces others, which however do not deserve the trouble of being refuted. On our return to the subterraneous bridge, we found our friend sitting by it all alone. No Bishop, surely, of the ancient church ever penetrated into catacombs more gloomy, or of more difficult access than those which this worthy Prelate was now exploring; and the place where he waited for us, seemed to be a real image of Dante's *inferno*;

* *Giornale d'Italia*, T. II. N. 41. pag. 401. See *Descrizione del ponte di Veja* di Zaccaria Betti. Verona, in 4to. fig.

inferno; a situation well suited for one disposed to reflect on Young's Night Thoughts, and to render them still more dismal.

Not contented with the plain discovery of the channel through which the rain waters ran in passing under the rustic marble bridge, we wanted something more; looking on what we had already seen as only a greater degree of probability that a subterraneous river actually existed near us, as we had suspected. It appeared impossible to descend lower down, the sides of the bridge were so high and steep. Yet this difficulty did not discourage us; we made a shift to let ourselves down from a stone that juts out from the rock, and were soon in a condition to prosecute our researches. The marble on which we trode is precisely of the same nature as that which forms the base of *Liburnia*, and the adjacent islands, whereof I had a specimen engraved in my observations on the island of Cherfo and Osero. * The tubular *Osteolites*, changed into calcareous spar, resist the erosion of the waters there below, just as they do on the sea shore, much better than the stoney cement that binds them; and hence they are full of protuberances. Descending a few steps further upon the inclined stratum, we found several small lakes and pits. It is manifest that these have been hollowed in the stratum by the fall of water from above, which, in floods, on the melting of snow, has no doubt, pressed with violence on all parts of those caverns for an outlet. These pits made us perceive that we stood upon a vault, and that the space below was occupied by water; the marble brinks of the pits did not seem to be above two feet thick, which is also the usual thickness of that kind of substance along the shore of the *Quarnaro*. We
threw

* *Saggio d'osservazioni fu l'Isola di Cherfo ed Osero*. Ven. 1771. Fig. 1. pag. 106.

threw several pieces of white stones into the clear water of the lakes, and could observe them falling for near a minute, but lost sight of them before they touched the bottom. In order to ascertain the course of these waters, which appear as it were stagnant, having necessarily lost the force of their current by their passage through such rough uneven places, we threw in some pieces of paper, and they moved slowly according to the direction of the water in the pits which are shut up all round. I was in hopes of seeing some fish in these, hitherto, unexplored waters, but could not discover any; either because there was none, or because the lights and noise had frightened them away. On my return above ground, well satisfied with what I had seen, I could not help casting an eye on the high mountains which flank the course of the Cettina, and whose tops, in former ages, were undoubtedly traversed by a river, probably the same which now running partly under and partly above ground, has found a new road to the sea, leaving abandoned for ever the vast beds of fluitated stones through which it wandered in times very remote from ours, and opened its temporary channels.

The inhabitants of the lands through which the river Cettina runs, who were formerly subject to the Ottoman government, and consequently had more frequent opportunities of examining the rising of its waters, observed that it had a constant analogy to the rising of the lake of *Busco-Blato*, twenty long miles distant from the sources of *Jarebiza*, on the other side of the mountains. Hence they concluded that there was a subterraneous communication between *Busco-Blato* and the river; neither the distance, nor the height of the intermediate mountains, hindered them from forming so reasonable a conjecture. That lake a-

H h

bounds

bounds so much in fish, that the hogs catch them, and by feeding on them become most enormously fat. The Morlacchi who inhabit the skirts of the lake, and are Ottoman subjects, avail themselves of the quantity and fatness of the fish to make oil. They extract it by the simple method of frying the fish in frying pans, and straining the melted fat, lay it up in jars for domestick uses. I could not learn if the waters of *Busco-Blato* have a constant period like those of the famous lake of *Czirkniz*; but it is highly probable that they have some period known to the inhabitants of the neighbourhood.

A MORLACCO Dinner in a Church Yard.

Our dinner was prepared at a little distance from the caverns, and the spot chosen for that purpose was an ancient burying place, near the ruins of a church dedicated to the Ascension. The many trees that have been planted among the graves form an agreeable shade; and the large stones under which the bones of the valiant ancients are laid, deserve notice, as well for their number as their bulk. I call them valiant ancients, because the arms frequently found in that place shew that they were warriors. Under these trees there are above two hundred very heavy masses, each of a single piece of marble, which might very properly be called tombs of giants. Some of those stones are nine feet long, about five broad, and near five feet thick. They are at such a distance from the mountain, that it is not possible to imagine how the old inhabitants of that country could bring them from thence, without the help of well contrived machines. For the most part those enormous masses are of a paralleloepid figure, and very well cut; but some are of a
more

more barbarous irregular form. None of them have any inscription, but almost all have arms in bass-relief.

Our entertainment was given by the Morlacco *Vukovich* with all the profusion of victuals that could be desired. That honest Morlack cannot speak a word of Italian; but understands hospitality perfectly well. One of the grave stones served us for a table; but we had more curious tables set before us to sustain two roasted lambs. These were flat unleavened cakes, destined to serve at the same time for dishes and for bread. We eat of some of the various meats set before us with great appetite, but could not taste some others that were esteemed the delicacies and refinements of Morlacco cookery. We thought the cakes excellent, and they were soon eat up, when the learned Bishop turning to me, said very opportunely: *Heus, etiam mensas consumpsimus!* The Morlacco table resembles that of the Tartars; as the two nations are, in many things, like each other; therefore would not please the nice taste of more polished Europeans. The table cloth is generally a woollen carpet; table napkins are rarely used, and when there are any, they are also woollen. They carve with a long heavy knife which every Morlack carries at his girdle. Little use is made of forks, though the master of the house sometimes has one. They have wooden spoons in abundance, and can furnish one for each of the company, if not very numerous. Those who observe the true national custom, never use glasses, or cups; instead of which, there is one large wooden cup called *Buckkara*, in which they mix wine and water, and it goes round, from mouth to mouth, till it is empty. The mutual kisses of the guests are often infused in this liquor, but they do it no harm. Instead of China and earthen ware, these good savages had a few wooden dishes which were

filled with milk of various kinds and compositions. In these dishes every one of the company dipt his spoon according to his own pleasure; as we, a Morlack officer, our host Lukovich, and our guides, all did at the same time with brotherly equality. The worthy bishop was as well contented as any other of his brethren could have been at table with all his clergy about him.

The Morlacco manner of roasting sheep and lambs, is very simple. Having drawn and flayed the animal, they spit it whole upon a large branch of a tree cut for that purpose; when a great fire is lighted before it, and first the one side, then the other is roasted. In their ragouts, garlick makes always the principal seasoning; and they have detestable tarts of milk and flour, in which they also put garlick. Notwithstanding all this, I soon accustomed myself so well to the Morlack way of eating, that I frequently dined heartily on sour milk, garlick, scallions and barley bread, which is their ordinary diet. In a plain near the burying place, we saw the ruins of ancient habitations quite destroyed, which however appear to have belonged to some Roman settlement.

Of the plain of PASCOPOGLIE, FONTE SALSA, the island of OTOK, and the Ruins of the COLONIA ÆQUENSIS.

The Cettina, augmented by the concourse of various branches descending from the sources of *Jarebiza*, traverses with dignity the plain of Pascopoglie, which, in rainy seasons, is subject to inundations, because the river has no banks, and its course is frequently interrupted by mills, ill contrived artificial cuts, islands and banks of mud, which embarrasses the channel thus left entirely to eventualities. For this, and
other

other reasons unhappily combining, the plain of Pascopoglie, and almost all the fine rich vallies of Morlacchia, lie quite uncultivated. We did not follow the course of the Cettina, but leaving it for sometime, we saw it again at the pass of *Han*, where, not far from the river, there is a spring of salt water, called by the inhabitants *Zlone-stine*, that is, salt stones. We did not visit this spring, though we passed near it, not having been told of it in time, and pursued our journey to *Otok*, a small island in the middle of the river, famous among the inhabitants of that neighbourhood for the slaughter of several Morlack families, which had taken refuge there in the last war, and for sometime defended themselves bravely: The various branches of the Cettina are of considerable depth thereabouts, but take up too large a space of fenny ground, which might be prevented by uniting them together, and raising banks from the sources downwards, so that the waters, restrained within narrower bounds, might pass between the mountains at *Trigl* in a larger body, and with greater force. From thence they would fall from rock to rock as far as the small fort of *Duare*, where they take a smoother course, till they fall into the sea below *Almissa*.

In ancient times this river was certainly not left to itself, and so neglected; for at a little distance from the pass of *Han* the *Colonia-Æquensis* flourished, though now no vestige of it remains discoverable at first sight. The city of *Æquam* was built on a low hill of moderate extent, which commands the fine plains of Cettina, and the prospect of that large river, which runs not far from it. No remains of ancient Roman buildings are now to be seen above ground; but the inhabitants of *Seign* dig in search of squared stones, and sometimes find beautiful pieces of cornices, and other ornaments worked in the best taste. We
saw

saw some remains of an inscription, in cubital letters, on a large cubick mass of stone, but time had corroded it so much, that few of the letters were legible. The Morlacchi, not long ago, dug out of these ruins, now covered with grass and brushwood, a noble monument, on which the name of that ruined city is inscribed; but, through barbarous ignorance, they broke it into three pieces, in order to transport it with less fatigue to *Seign*; and one of these pieces, which is now wanting, just happens to be that which contained the name of the respectable man in honour of whom the monument was erected.

On the side of the hill of *Æquum* there was in former times an amphitheatre, not very large, as appears by its ruins, disposed in a circular form, and now covered with earth and grass. The canals are still visible that served to conduct the water into its area, and they have been cut out of the live rock, not built. It appears that the *Æquenses* levelled the place appointed for the edifice before they dug the canals, for they are cut in the stone that forms the little hill, then covered with marble slabs, and run winding under the ruins: the largest is about two feet square, and the smallest little more than one. The stone on which the *Æquenses* worked is exceedingly tender, and almost farinaceous. I took a specimen of it near the mouth of the smaller aqueduct, and find it has some analogy to the scissile stone of *Bolca* of the softest kind. No fragments or remains of marine animals are discoverable in it, though it contains some small leaves of sea-weed, or at least of something that very much resembles it. This kind of stone does not resist cold, and I believe it is apt to shiver by the heat of the sun after rain; hence the inscription which we found exposed to the open air is lost. Father Coronelli calls this place *Nojæ*, noting that it was

was taken from the Turks by the Venetian General Valiero in 1685. *Lucio*, in his memoirs of *Trau*, calls it *Chglivich*. *Luccari*, a Ragusean annalist, not remembering that the dipthong sometimes makes a great difference in the signification of words, and not having consulted the ancient geographers, pretended that the *Colonia-Æquensis* was about six miles distant from the ancient *Epidaurus* in a place called *Cogniz*, but he had not observed the ancient itineraries, by which he might have discovered his mistake. *Cogniz* might have been substituted for *Equilibrium*, if in those parts there had been anciently a place of that name derived from horses. *Kogn* in Slavonic signifies *Equus* a horse, but not any thing that has a relation to *justice*, as *æquum* signifies. On the road from *Æquum* to *Seign* there is a view of a considerable number of little hills scattered in very pleasant perspective, and covered with large trees, near which the Morlacchi generally build their cottages. The base of these protuberances is sometimes of an ash coloured clay, containing fossil shells.

Of the VULCANIC hills, and lakes of KRIN ; and of the GYPSUM of Seign.

We stopped at *Krin*, where we were courteously treated with honey combs by the poor inhabitant of a cottage more delightfully situated than many grand palaces. He did not defend himself, in any manner, from the revenge of the bees, in extracting the honey ; yet none of them stung him, although he felt about for what he wanted in the hive with great deliberation. The honey was delicious beyond expression, and while we were eating it under the shade of the trees, the poor man's eldest daughter came and presented each of us with a nosegay of
sweet

sweet herbs. It is impossible not to feel and relish such acts of simple rustick hospitality. The summit of the hill of *Krin* is of the same kind of stone as that of *Æquum*, and the foot appears to be volcanic, hence a kind of porous pumice stone, and a heavy iron earth hardened by fire, are found between the hill and the contiguous lakes of *Krin*. These lakes afford no great variety of fish, but among them the inhabitants pretend there is a hairy species, and some described it very seriously, adding, that they keep at the bottom, and therefore it was very difficult to catch any without poisoning the waters. I am not disposed to believe physical extravagancies unless I see them; and therefore I suspended my belief of the hairy fish because I did not see it. The two lakes of *Krin* are divided by a small isthmus, under which they communicate, and the intermediate earth shakes when trod upon. In the meadow grounds of *Margude*, where the lakes are, sometimes new ones are formed by a sudden sinking of the earth; and one particularly, not long ago, under the eyes of the Morlacco *Bilonoski*. The earth fell in before him, all at once, for thirty five paces of circuit, and the space was filled with muddy water. These sudden submersions of the boggy low lands of *Seign*, resemble the *Cuore* of the *Polesine*, *Dogado*, *Bolognese*, and other low marshy districts that swim upon the water, and may with propriety be called floating islands. The celebrated Count GIROLAMO SILVESTRI, Canon of Rovigo, has wrote a learned dissertation concerning their production, which is inserted in the *Giornale d'Italia* 1771, for December, and merits to be read. The nature of the land of *Krin*, and *Margude* is analogous to that of these *Cuore*, being composed of, and sustained by roots of marshy plants closely wreathed together, which, being loosened by ploughing, fall a prey to the waters. There was no fish in the new lake when we saw it; but

but its depth, as far as we were able to examine it, appeared to be considerable. Its perpendicular banks shewed that the fall had actually happened not long before.

The meadow of *Margude* is surrounded by little hills, to some of which it is united by means of an easy declivity. All these hills are more or less volcanic, particularly towards the base. That the hills situated further back are likewise of the same kind, at least in part, appears manifestly by the rivulet *Carocasiza*, which conveys along with it ferruginous lava, and black, grey, and reddish stones of a volcanic nature. The poor hamlet of *Carocasiza*, is almost wholly inhabited by Gipsies, a wandering race, as every body knows, and who infest the places through which they pass. In that part of Morlacchia subject to the Venetians, many families of gipsies employ themselves peaceably in husbandry, though more commonly in manufacturing iron; and they work very well, considering the simplicity of the instruments they make use of. Some also deal in horses; and the Turks on the confines detest them, because they are frequently outwitted by their malicious cunning. The gipsies speak a language different from the Illyrian either of Boffina or Dalmatia; probably, it resembles the Armenian, or Mingrelian, as a great part of the gipsies scattered over Europe, and particularly in Bohemia, come from those countries. Having crossed the rivulet *Carocasiza*, which falls into the Cettina below *Æquum*, and leaving behind us the village which gives name to the rivulet, we saw a little hill of *Gypsum* to the left of the road that leads to *Seign*. This *gypsum* is of a much better quality than that of the territory of Ancona, from whence Venice is supplied. I know not if it would turn to the account of the merchants to have this article from Morlacchia, because the carriage to the

sea side would cost the fourth part of a Venetian sol per pound ; but I should think that the small sum annually spent in the Pope's state for this commodity might be more usefully employed in Dalmatia, even if the preference were given at the cost of a small difference in the price.

Of the Fortrefs of SEIGN, and the Plain near it.

The fortrefs of *Seign*, where the breasts of a few hundred Morlacchi served as bastions against thirty thousand Turks in the last war, never was a remarkable piece of military architecture. Some are of opinion that *Aleta* stood on the same spot. Only one inscription well preserved, on Greek marble, is found there ; and that has been long ago barbarously used in the wall of a house : but it might have been brought, as well as some others, from the ruins of *Æquum*, only five short miles distant, or perhaps from some more ancient city, whose name and ruins are now lost. This, however, cannot be said of another inscription, and some bas-reliefs ill preserved, that are in a place called *Le Fontaine*, near *Seign*, where several other pieces of antiquity have been dug up. The situation is remarkably beautiful, and therefore has not been neglected by the Romans, who always fixed their settlements in the best parts of the conquered countries. The Turks fortified a steep mass there according to their barbarous manner ; that is, without any intelligence except the planting a number of artillery. Their fortifications are in fact almost all dismantled, though this place is described by *Busching* as in very good condition. A noble Venetian resides at *Seign* with the title of *Providitore* ; and there are quarters for cavalry, whose principal occupations are to escort the caravans from the Turkish frontiers to Spalatro. The hill of *Seign* is of *breccia* irregularly

regularly disposed in such a manner as looks more like the ruins of strata than real strata. It stands in the bottom of the plain which extends to the Cettina, and is often overflowed by that river. Below the town the plain is very narrow, and circumscribed by mountains that join the *Cucuzu Clanaz*. At the foot of these mountains are strata of a blueish clay, which contains various species of marine bodies calcined; and huge masses of marble *breccia*, fallen from the mountains, lie in this clay. The beautiful and large valley of Cettina, or Seign, is, as has been observed, subject to the inundations of the river, which serves it for boundary, running at the foot of the hills of *Rude* and *Trigl*. It is also rendered unhealthy by the water of the *Sutina*, which loses itself in marshes, and so, perhaps, gave ground to geographers to fix a lake there. The several rivulets and torrents, which, without any order or restraint, descend from the mountains, and unite their turbid waters with the Cettina, produce, it is true, some interruption to the current, but that is neither considerable for its extent, nor for the time it lasts. The waters that do the greatest damage are those of the *Rude*, which spread themselves near *Trigl*, in the neighbourhood of which many remains of Roman monuments are found; and there, perhaps, *Tilurium* once stood. The straits into which the river enters there, cutting the great mountain that divides the district of Cettina, are, perhaps, one of the principal causes of the inundation, by retarding the current. It would be a useful and meritorious attempt to endeavour to find a remedy for this evil, which renders a fine province fruitless as well as unhealthy; and perhaps the remedy might be found by restraining the principal bed of the river within banks; preventing its spreading through the plain, and by regulating the streams that fall into it. The Morlacchi of the district of *Seign*, are not ignorant of the advantage that might be derived from such an operation both to publick and

private interest, and they would willingly enough undertake the work themselves. That frugal and robust people, too often diverted from labouring their own lands by the appearance of publick service, would be very glad to be employed to the real advantage of their Prince whom they love and venerate, if the malice and avidity of a few did not find means, in this work also, to render their labours of little benefit to them.

Of the course of the CETTINA, its precipices, and cascades.

From *Trigl* to *Duare* the Cettina precipitates, from rock to rock, on a bed cut almost perpendicularly through the bowels of the mountain. Below *Novafella*, it runs over a tract of ground that would be less horrid than the rest, if the waters, left to their own force, did not keep it almost constantly overflowed. A short mile distant from the fort of *Duare*, a very important post, and the only defence of the whole country on the sea coast from *Almiffa* to *Narenta*, the Cettina forms a magnificent cascade, called by the inhabitants *Velika Gubaviza*, to distinguish it from a lesser fall a little below. I went to see it early in the morning, descending from *Duare*, where I had been received with cordial hospitality by Signor *Furiosi*, a gentleman of *Almiffa*, and governor of the Fort, whose brave ancestors contributed greatly to the conquest of it from the Turks.

I was obliged sometimes to creep, and sometimes to leap from one rock to another, in order to arrive at a place from whence I could have a good view of the cascade. Let them tell you what they will of the precipices of Mount Pilate in Switzerland, they cannot possibly be more impracticable. Notwithstanding this, the shepherds, with their leather flasks full of water, climb, with surprising dexterity, from the bottom of these

these abyſſes, to the plain tops of the hills where their thirsty flocks feed. If any of them miſs a ſtep, they muſt inevitably be precipitated, and become food for the vultures; but ſuch accidents rarely happen. The vultures of thoſe parts, near the mouth of the Cettina, are dreadful animals, meaſuring above twelve feet from the tip of one wing to the other, and are able to lift up in their claws, and carry away to their neſts, lambs, nay, ſometimes ſheep, and even the children of the ſhepherds. I ſaw one of them, and meaſured it myſelf. *

The right hand bank of the river, which roſe perpendicularly to the clouds above my head, when I was within reach of having a full view of the fall, is about five hundred feet high; and the left ſide, on which I ſtood, is ſo ſteep, that without the inequalities of prominent rocks to lay hold on, it would be abſolutely impoſſible to deſcend.

In that place, the bed of the river is ſcarcely eight feet broad; this profound narrowneſs, added to the horroure of the many hanging rocks, is ſufficient to depreſs the higheſt ſpirits. The water of the river does not, however, precipitate from ſo enormous a height. Its fall may be compared to that of *Velino* near *Terni* in *Umbria*. But the wild craggy precipice below *Duare* has

* The extraordinary bulk of the vultures of thoſe parts is not to be wondered at, nor the truth of this fact called in queſtion; the vultures of the Swiſs mountains are of the ſame race, and not only carry off kids, lambs, wild goats and children, but will alſo attack grown up men. The ſpecies is called, *le Vautour des Alpes*, and it is particularly deſcribed by old *Conrad Geſner*, though unaccountably neglected by moſt other ornithologiſts. A well preſerved ſtuffed ſpecimen of this noble bird may be ſeen in the curious collection of the *Revd. Mr. Sprungli*, near *Berne* in *Switzerland*.

has no kind of resemblance to the valley of *Pepigne*, which, amidst its horror, is rather pleasant. There a man habitually melancholly, and who chose to indulge his gloomy state of mind, might set up his habitation; but, in the noisy horror of the Cettina, buried between immense rocks, no man could live, but one abandoned to despair, an enemy to light, to society, and to himself. The waters that precipitate from a height of above a hundred and fifty feet, form a deep majestick sound, which is heightened by the echo resounding between the steep and naked marble banks. Many rocks tumbled down, which impede the course of the river after its fall, break the waves, and render them still more lofty and sounding. Their froth, by the violence of the repercussion, flies off in small white particles, and is raised in successive clouds, which by the agitated air, are scattered over the moist valley where the rays of the sun seldom penetrate to rarify them. When these clouds ascend directly upwards, the inhabitants expect the Scircuo, or south east wind, and their observation never fails. Two huge pilasters stand, as if for a guard, where the river takes its fall; one of them is joined to the craggy brink, and its tops covered with earth, where trees and grass grow; the other is of marble, bare and insulated. While my companion was drawing this magnificent piece, Plate XI. I had time enough to write the description of it, and did not neglect to examine the substances that compose these precipices. I found a very remarkable species of *Oclithus*, whose grains are connected by a strong sparry cement, spreading like net-work; and a beautiful kind of angulated *Breccia*, with large white spots, and streaks of lively red, which would be fit for any noble work. The Morlacchi who served me here as guides, seemed more curious and observing than any I had before met with. They examined with great attention, the

the progress of the drawing, and were so far from shewing wonder or contempt at my collecting stones, as our peasants use to do, that they appeared even curious to examine them themselves. My vanity was not a little flattered by the surprise of those men, born, and hardened in fatigue, at my agility in climbing and descending the rocks; and I was highly pleased on hearing one of them exclaim; *Gospodine, ti nissi Lanzmanin, tissi Vlah!* Sir, you are not an Italian poitron, you are a Morlacco. The honest Morlack, who was tired of following me among the rocks, certainly paid me a very sincere compliment. Little more than half a mile below the *Velika Gubaviza*, the river falls again from a height of about twenty feet, and forms the *mala gubaviza*, or little cascade. This exhibits a less magnificent, but a more theatrical view. The river falls among craggy masses at the foot of the mountain, and then expands over the spacious valley flanked by woody hills, and commanded by the mountain of *Duare*. The main structure of this mountain is not of marble, though the top is. Descending towards the river, I observed a great variety of marine earth more or less hardened; but a kind of ash-coloured clay, without sand, predominates.* From the foot of mount *Duare*, a rugged hollow stretches along southward, seven miles to the sea side, and preserves distinguishable vestiges of the abandoned bed of a river, which perhaps has been interrupted by the fall of some large piece of a mountain, and the water turned another way. When I examined the brows of these dismantled hills, it appeared by no means impossible, that from new ruins, new interruptions might arise, and so produce other deviations of the Cettina.

Course

* *Argilla humido cærulescens, ustione rufescens.* Lin 52. 9.

Argilla vitrescens, rudis. Wall. *Argilla rudis sabulo destituta.* Woltersdorf.

Course of the CETTINA from DUARE to its Mouth.

Proceeding from Duare along the banks of the river, towards its mouth, which is twelve long miles distant to the westward, I was more confirmed in the opinion I had before conceived, that the summits of the greater mountains of littoral Dalmatia are of marble, and their body and roots of a different substance. For as the top of Duare is marble, so is that of mount *Dinara*,* which stands between the river Cettina and the sea; and as the inferior parts of the former are of earth more or less hardened, so the sides of the latter are composed of various modifications of marine matter, not marbly. Four miles below Duare, along the high road, are certain veins of stone, that deserve particular attention; as they resemble, even when examined just under the eye, a wall of stones well squared.† These veins are, in appearance, almost vertical, and their formation is analogous to that of similar veins near Spalatro, as both owe their induration to waters filtrated between the interstices. When I give you an account of some observations made along the sea side, on the exterior part of mount *Dinara*, I shall describe a piece of stratum that lies open to the eye, like that just mentioned; and it being of an instructive and singular nature, I had a drawing made of it. Further on the road, in the jurisdiction of *Slime*, are to be seen, in great quantities, various kinds of flints of different colours, and curious marbly compositions of marine bodies, susceptible of a fine polish

* This is not the mount *Dinara* that stands on the confines of the districts of *Knin* and *Seign*. It is common in Dalmatia to find the same names of mountains, &c. in different places.

† *Cos. 4. particulis impalpabilibus, effervescentibus, mollis, cædua, quadrum specim.*
Wall. 84.

Quadratum, Alberti. Quadrum, Cæsalp.

polish. I have some specimens that deserve a place in any museum whatever. One, in particular, is an aggregate of marble composed of *lenticulares*, fragments of other fossil marine bodies, and white angular pebbles. Among the small petrified *Lenticulares* contained in this marble, some have their concamerations distinguishable on the outside. In looking with the naked eye, on the smooth superficies of this marble, one discovers a very great variety of sections of the *lenticulares* contained in it; and almost every particle, when examined with a glass, affords something agreeable. The river, along the banks of which I travelled, is almost every where embarrassed with *tophus*, which increased daily, and renders it unnavigable, notwithstanding the great quantity of water that constantly runs in it, and the great advantage that would redound to the province, if it were navigable as far as *Duare*. The mountains of *Poglixa*, on the right of the Cettina, as well as those of *Slime*, *Svinischie*, and *Cuccichie*, bear great plenty of oaks, the timber of which might be transported to the sea at a small expence, if the river was rendered navigable. They would certainly cost much less than the oaks of Istria, and be very useful in ship building. It is also probable, that the timber of those hills is of a better quality than that which grows in Istria, on low moist ground. To open such a canal, there would be no need to cut through rocks with the chissel, for axes would be sufficient to clear away the tophaceous beds that now obstruct the passage.

In going down from the district of *Svinischie*, towards *Miriz*, there is a great variety of whetstone, grey and blue, and, in the *Breccia* fallen down from the mountains, a great number of small angular flints, and fragments of marine bodies. At *Miriz*, the vestiges of a large natural wall are still standing, particularly

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on the left side of the river; the waters have opened a passage through it, which must have been by a work of long time. The view of those masses of rocks forms a piece of scenery that relieves the eye after the tiresome uniformity of the neighbouring uncouth places. Who knows to what ancient and deep parts of mountains this vast wall once belonged, and when it was hardened into stone by the waters that in other ages passed through the vertical aperture, of which, in the course of time, so strange a vestige remained. The disposition of the internal mountains of Dalmatia, and of some of those near the shore, of argillaceous nature, is almost constantly traversed here and there by veins of sand stone, or of sand stone mixed with shells. The great wall of *Miriz* has on both sides been flanked of old with strata of clay, of which the contiguous mountains are also internally composed, and particularly those into the heart of which the wall stretches, both on the right and left side of the river, which has forced its passage through by overturning a part of it. The ample ruin manifest in that place, and the great height of the masses through which the river forced its way, tearing the bowels of the mountain of which they formed a part, are objects well calculated to shew how many, and great alterations the superficies of this globe suffers by the means of mountain waters. And this is demonstrated not only by the river Cettina, or the *Kerka*, but even by every little torrent; nor is it applicable alone to the mountainous regions, but also to the low plains subject to inundations that raise them; and to the sea coasts, near the mouths of rivers, which, like Ravenna, and Adria, in the course of a few ages, are set at a distance from the sea.

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The Cettina, without the straits of Miriz, spreads itself wide over the valley, and is divided into many branches by the banks of gravel, and taphaceous obstructions. Small barks may come up within a short mile of this place, and formerly they used to bring salt for trade to the fort of *Vissech*, which was dismantled an age ago, being thought useless. Farlati, in his *Illirico Sacro*, speaks of *Vissech* as a strong and well fortified place not many years ago; and Busching calls it a city; though the truth is, it neither has inhabitants, nor even vestiges of habitations. From this place to the sea, the river has a free course for three miles, though it takes a winding road among rocks of frightful height, which form perpendicular banks for a long tract. The variety of prospects that occur in the short course of the Cettina from *Vissech* to *Almissa*, is truly charming. The passage is sometimes from very narrow canals to open vallies, well cultivated, and partly covered with cattle; then between high rocks where no issue can be seen, and so by turns through a variety of pleasant views, and frightful passages, you arrive at the mouth of the river, regretting the short duration of so magnificent and delightful a spectacle.

Of the Province of Pogliza and its Government.

The appendages of mount *Mosfor* extend, on the right of the river, following its winding course from the village of *Gardun* opposite to *Trigl*, all the way to the sea. This tract of hills that rises between *Cliffa* and *Duare*, and reaches from the mouth of the *Xarnovniza* to that of the Cettina, goes under the name of *Poliza*. The river serves as a confine to the province of Pogliza for above thirty miles, interrupted only by a small part of the territory of *Duare*. The Poglizans have no city, neither had

they any in ancient times, as far as records go. They put themselves spontaneously under the protection of the republick of Venice, having shaken off all dependance on the porte under which they formerly lived, though always governing themselves by their own statutes. The government of this little republick has something singular in it; and deserves to be known. Three orders or ranks of persons compose the whole body of the people, consisting of about fifteen thousand. Twenty families pretend that they are descended from noble Hungarians, who in turbulent times had taken refuge in these parts. Another larger number of families boast that they are nobles of Bosnia, and the rest are the commonalty of peasants. Every year, on St. George's day, the Poglizans hold their diet, which they call *Zbor*: and each of the three orders forms a separate encampment on the plain of *Gatta*. There they chuse new magistrates, or confirm the old ones. The *Veliki Knes*, or great Count, is the first dignity of the state, and is always chosen from the noble Hungarian families. The electors are, the inferior Counts, that is, the chiefs of villages, chosen out of the Bosnian nobility, and deputed by their respective communities to the diet. In the mean time, while the inferior Counts elect the great Count, the people, divided into various assemblies, representing the inhabitants of the villages, chuse the inferior Counts for the following year, or confirm those who deserve it in their office. And the first order of the state proceeds at the same time to the election of a captain, and two proctors. It happens but seldom that the great Count is chosen without violence, because there is generally more than one candidate. In that case, after having canvassed the votes underhand, one of the boldest partisans lays hold of the box containing the privileges of the community, which is the depofite annually committed to the care of the
great

great Count : He runs with the box towards the house of him for whom he is engaged, and every member of the diet has a right to pursue him with stones, knives, and fire arms ; and many make use of their right to its full extent. If the man takes his measures well, and gets safe to the house proposed with the box, the great Count is duly elected, and none dares make further opposition. The laws of the Poglizans, and their procedures retain somewhat of the barbarous age in which they were compiled ; yet some of them are very reasonable. If there happens to be any litigation about land, the judge goes upon the spot, and hears both parties, sitting on the ground, with his own cloak spread under him ; he decides the cause before he rises, and generally to the satisfaction of both parties. When a Poglizan is killed by one of his countrymen, the Count, or Governor of the village, attended by the principal people, goes to the house of the murderer, and there they eat, drink, and plunder what they like best. After this ceremony, notice is given to the great Count, who also repairs without delay to the same place, and consumes every thing that remains. If the murder is not attended by some atrocious circumstance, the penalty is forty dollars, which make about the value of eight sequins ; this contribution is called *Karvarina*, that is, bloodshed, or price of blood. In former times, murderers were condemned to be stoned to death ; but at present they are liable only to pecuniary punishments, because the great Count is unwilling to expose his own sentence to an appeal to the Governor General of Dalmatia ; yet sometimes the criminal is stoned directly after the fact is committed, and so no time is left to appeal. Proofs by fire, and boiling water, are still in use among those people, and the victims are sometimes seen disabled, and half roasted. The Poglizans have another kind of torture, that is at least equal to any of the analogous

analogous inhumane inventions among politer nations ; they put splinters of pine between the nails and flesh of those accused of certain crimes, but never make use of any other wood, because their statute prescribes this species alone.

Notwithstanding these traits of legal barbarity, the Poglizans are humane, hospitable, and good friends, when they have no ground for suspicion. Their ignorance renders them diffident in some cases, hence it is impossible for strangers to get information from them about any thing that might engage their curiosity, or to inspect ancient records ; and they are always afraid that a stranger who can read, is a digger for hidden treasures. The shepherds of Pogliza have a particular devotion for St. VITO, and solemnize his holiday by burning odorous wood before their cottages. In former times, the Sclavonic nations worshipped the God *Vid*. They believe that, by taking away the ice from the hollows of their mountains, where it lies the whole year round, a north wind is raised, which destroys their plantations, and therefore they do not suffer it to be touched. They treat their women uncivilly, and never speak of them without a preface of excuse, like the Morlacchi, which is a sufficient specimen of the rudeness of their manners. Their strength, fine stature, sobriety, and habitual fatigue, form the Poglizans for soldiers. Their country is inaccessible to large bodies of troops, but they can assemble, and come down from their mountains in formidable numbers. Not many years ago, stimulated by the spirit of revenge, they threatened the city of *Almiffa*, making a descent in a large body as far as the banks of the river ; and there was a necessity of using the artillery in order to disperse them. There is, in the territory of Pogliza, a hamlet called *Pirun Dubrava*, which signifies, the wood of *Pirun*.
Perhaps,

Perhaps, in old times, the idol *Pirun* was adored there, as he was at *Novogorod*, till JOHN BASILIOVITZ, Great Duke of Muscovy, conquered that famous city, and the provinces depending on it.

Of the City of ALMISSA, and the injustice done by F. FARLATI to its inhabitants. Geographical errors of the same Author.

Almiffa, called *Omish* by the Sclavonians, is perhaps the *Onæum* of ancient geographers, though not the *Peguntium*, as is commonly believed. It lies at the foot of very high rocks, on a level point of land, which is bathed by the *Cettina*, and the sea. Busching, that it might enjoy a better air, has placed it on a high rock; and Father FARLATI, whom I have often cited, asserts that it is built on a hill, adding also with equal exactness, that it is five miles distant from the ruins of *Epesium*; though the distance between these two places is thirteen long miles. There are no vestiges of good antiquity about Almiffa; but some fragments of vases, tiles, and inscriptions found at *Starigrad*, that is, the old city, are indications of an ancient Roman settlement there. The only monument of antiquity now preserved in Almiffa is a small dedicatory inscription built up in the wall of the city. It has the title of Bishoprick, but not the residence, in the same manner as Knin, where, notwithstanding, Busching has placed a resident Bishop. Almiffa, together with its territory, forms a part of the diocese of Spalatro. It has a seminary of Sclavonian priests destined to serve in the parish churches of Pogliza, and in the islands, where the Sclavonic liturgy subsists. Almiffa was a nest of pirates in those ages of war and blood, when circumstances formed the temporary character of nations, and sometimes led them from the principles of humanity to barbarous

barous ferocity. The current of the river, hid, as it were, between high rocks, and the difficulty of pursuing them through dangerous banks of sand with which the mouth of it is embarrassed, were no doubt, strong temptations to the Almissans, in the times of anarchy, when they were subjects, or allies of the Narentans, and even later, when they lived under the *Heneg of S. Sabba*. But in these days, they are totally changed, and the writer on Illyrian affairs was certainly in the wrong to accuse them of being heirs to the bad disposition of their ancestors. This, otherwise, respectable author seems, contrary to the maxims of his profession, to have determined to irritate a whole community. Besides this, he has accumulated so many mistakes in a few lines, that I cannot help taking notice of them, to prevent his readers from giving implicit faith to what that learned and celebrated man has wrote on the wrong information of his correspondents in Dalmatia. I shall therefore point out some inaccuracies in the first volume, and which are crowded together between page 155 and 161. He says that *Scardona* is a strong city, though it is only nascent, and as yet has neither gates nor walls of any kind.* He speaks of *Vrana* on the faith of the topographer

* *Scardona. Civitas exigui circuitus, sed mœnibus cincta, et propugnaculis ad hostiles aggressiones sustinendas, et propulsandas non invalidis—Vrana modica civitas loco satis amœno—fortalitii non invalidi—formam accepit—Suburbana late diffundit ut sexcentas facile domos complectantur. Singum, a Tiluro in occasum, et a Clissa in boream spatio propemodum æquali disjunctum—assurgit mons Massaron ab Clissa ad Tilurum perductus—Prope fontibus Tiluri seu Certinæ, loco arduo, & prærupto insidet Livnum unde haud longo spatio interposito abest in occasum Verlica, castellum neque infrequens, & satis validum—Oppidum, cui nomen est Dumno—cui finitimus est Pagus—qui Clivnus dicitur—Almissa, sive Peguntium. Glodovi cujusdam castelli supra Almissam meminit Palladius. Circutum nunc imperio subest Venetorum—Opus—arx firmissimis mœnibus, ac munitionibus septa. Farlati Illyr. Sacr. Proleg. P. 2. a pag. 155 ad 159. Concerning his strange mistakes relative to Mostar, see pag. 161.*

topographer of the kingdom of Hungary, as a city, or castle still existing, and Vrana is only a heap of stones and rubbish, uninhabited, and frightful. *Seign*, which he says is equidistant from *Cliffa* and the *Cettina*, stands five miles from the river, and twenty from *Cliffa*. There is no hill near Spalatro that is called *Maffaron*, but there is mount *Moffor* that reaches from *Cliffa* to the mouth of the *Cettina*. *Klivno* is not, as he writes, situated at the sources of the last mentioned river, which arises not far from *Verlika* on the Venetian territory, but it is thirty miles distant from the sources, and above twenty from any part of that river. *Verlika* has no *castellum validum*; it is only a poor village, more inconsiderable than an ordinary hamlet in Italy. *Dumno*, or *Duvno*, is not near the river *Cettina*, but, at least, forty mountaneous miles distant from it, and about twenty seven from *Klivno*. *Almiffa* is not the *Peguntium* of the ancients, nor has it any hill or castle near it that is called *Glado*; but lies at the foot of one of the tops of the mountain *Dinara*, which is called *Borak*. *Citlue* belongs to the Turks, not the Venetians. The fort of *Opus* is not surrounded by walls, its ramparts and platform are only of earth. *Mostar* stands on the river *Narenta*, and cannot be confused with the territory of *Montenegro*, which is at least seventy miles distant; its situation is not rocky, and its distance from *Globeck* is not twenty, but seventy miles.

I was hospitably treated by several of the inhabitants of *Almiffa*, and particularly by Count *Pietro Caralipeo*, who deserves to be named with distinction; as well for the integrity, as for the politeness of his manners. The air of *Almiffa* would be very unwholesome, on account of the marshes formed at the mouth of the *Cettina*, had not nature provided the remedy in

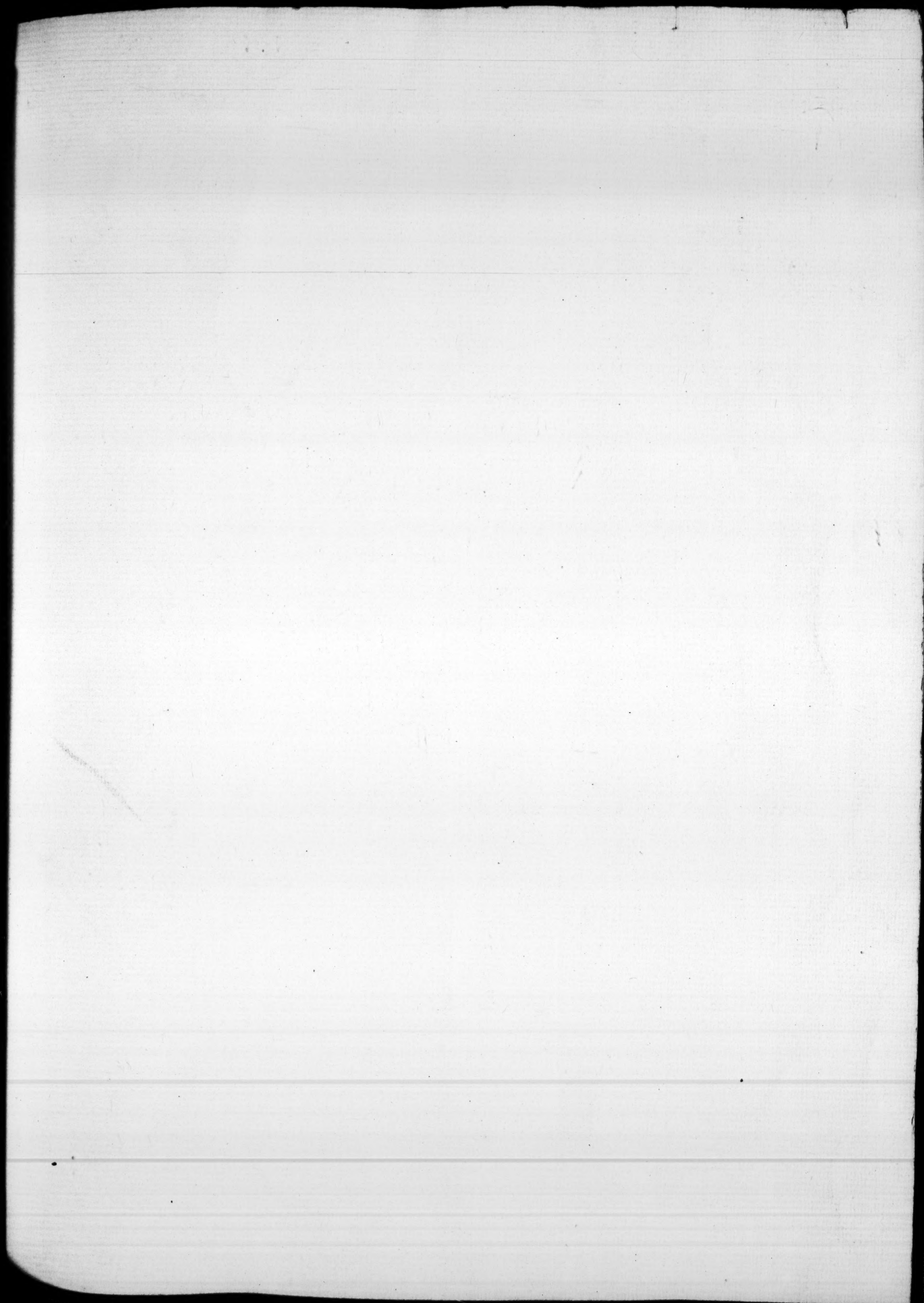
a fresh wind, that rises about midnight in all seasons, and blowing from between the steep and narrow banks of the river dissipates the unhealthful exhalations. Nevertheless the Almissians are subject to agues in the hot season.

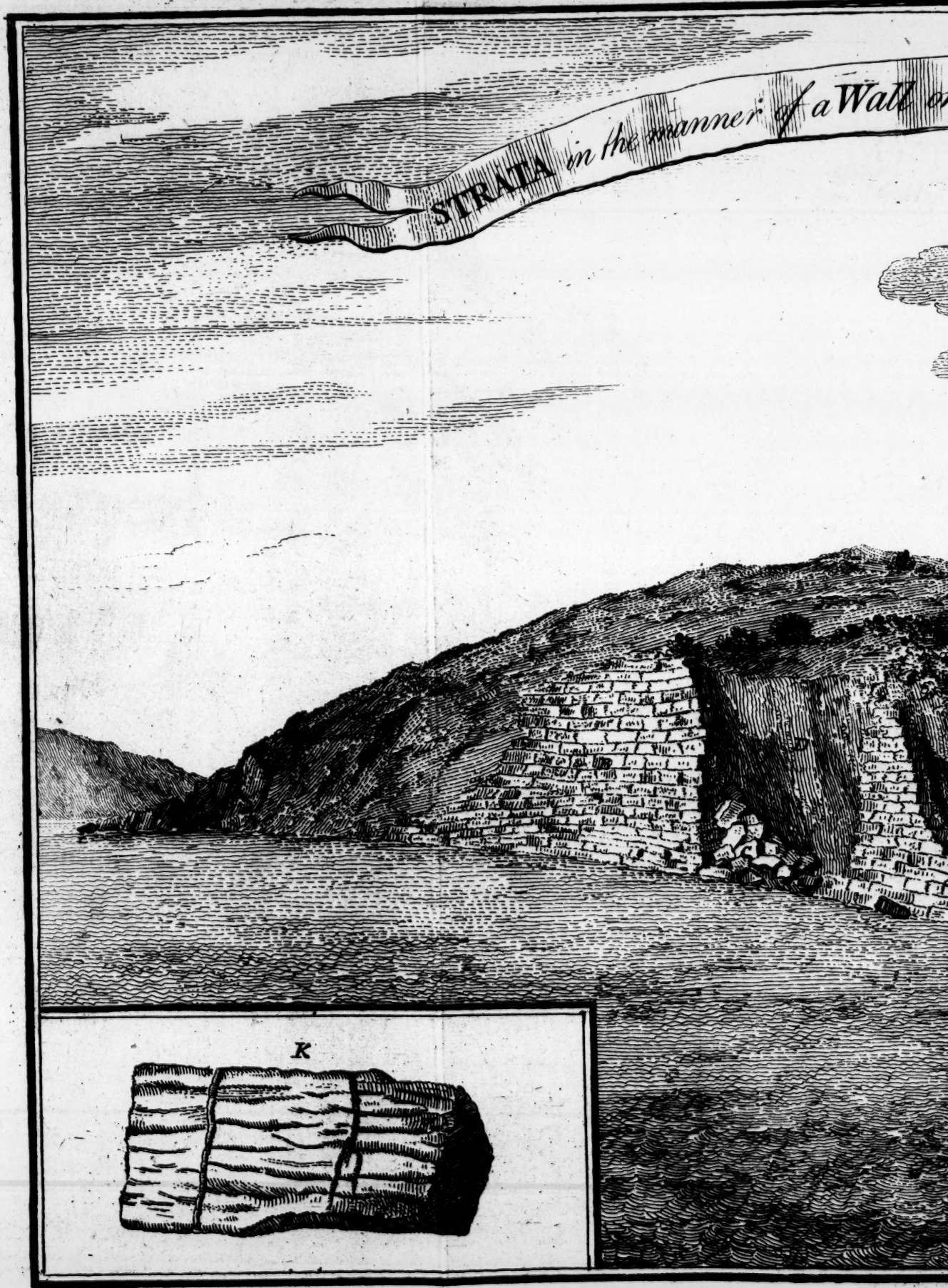
The fishing at the mouth of the Cettina is very ill managed, though the situation is so convenient that it might easily be improved to national advantage. The Almissians are satisfied with having reservoirs for their daily use, and think not of more extensive advantages. Their fish is of exquisite taste, and very large, as is generally the case where the sea and river waters are mixed. In the black sea, for example, fishes grow, in a short time, to a bulk beyond the proportion of their kinds; and the good naturalist Pliny attributes it to the number of rivers that run into it.* But the Almissians, to avoid the trouble of fishing themselves, rather chuse to leave it to the neighbouring islanders, and to buy the fish from them.

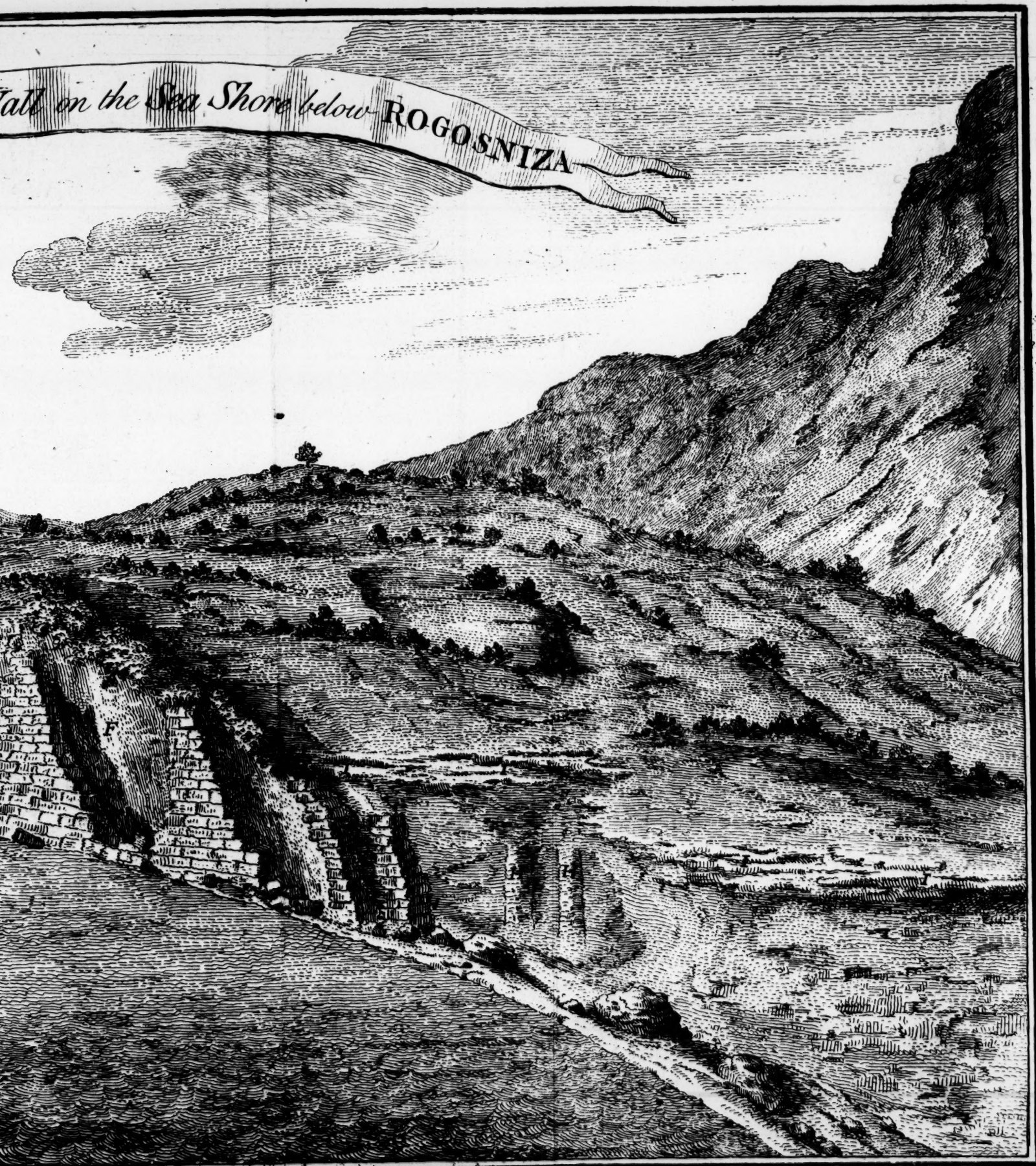
The territory of Almissa runs fifteen miles along the shore as far as *Brella*, and, although not cultivated with much skill, produces excellent wine; the goodness of the soil supplying the defects of cultivation. The *Moscadello*, and old *Prosecco*, of Almissa, and in general all the wines made there with any tolerable care, deserve a place at the nicest tables. If they were better known, they would certainly be preferred to many foreign wines that are much more costly. The Almissians have some possessions on the coast where the soil is of a bituminous nature, and the wine made there retains the smell of the soil.

Of

* *Piscium genus omne præcipue celeritate adolescit maxime in Ponto, causa multitudinis annuam dulces inferentium aquas.* Plin. Hist. Nat.







Inc. Leonardis sculp.

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*Of the natural Wall of ROGOSNIZA, and concerning VRULLIA,
the Peguntium of the Ancients.*

The coast throughout the district of Almiffa is composed of marble strata on the upper parts of the hills, and of different kinds of argillaceous earth, and whetstone below. In a small bay below the village of Rogosniza, there is, quite exposed to view, a natural wall (Pl. xii) like that which I met with on the other side of mount Dinara, by the side of the Cettina, in the district of *Slime*. The point A of the promontory is of subverted whetstone. The wall B is of sandstone. The ruins marked C are produced by the dissolution of the semilapideous earth D, by which the whole wall is supported. At E there is another piece of natural wall, and at F are new veins of blue earth. G G G are also whitish walls, and H H H H other heaps of marine clay indurated, without traces of *Testacei*. The waters which fall down the back of the mountain from the tartareous crust I I I I, whereof some large pieces, that have tumbled down, lie by the sea side. The stone K is one of those that composed the wall B, and is two feet long. These natural walls are so well concocted, that at first sight they appear remains of ancient fabricks.

Four miles to the eastward of the small bay where I had the natural walls drawn, the place is called *Vrullia*. This name is common to a mountain, a large hollow, and the submarine springs that are seen there. This hollow is the same of which I have spoke of before, and it seems to have been excavated by some ancient river. The springs which bubble up from under the sea are so considerable, that they might pass for the rising again of a river sunk under ground. *Vrullia* has the same derivation as the

word *Vril*, which in Slavonian signifies a fountain; and this etymology, rendering the name of Vrullia, the *Berullia* of Porphyrogenitus, analagous to that of *Peguntium*, since Πηγυ and *Vril* are synonymous, induces me to believe, that the castle named *Peguntium* by ancient geographers was situated in this place, and not at the mouth of the Cettina. No remarkable vestiges of antiquity now exist on the spot; yet it is evident, by the quantity of fragments of vases, tiles, and sepulchral inscriptions now and then dug up, that this tract of coast was well inhabited in the Roman times. The principal cause why the tracts of ancient habitations cannot be discovered about Vrullia, is the steepness of the hill above it, and the quantity of stones brought down from thence by the waters. The mouth of the hollow of Vrullia is dreaded by seamen, on account of the sudden impetuous gusts of wind that blow from thence, and, in a moment, raise a kind of hurricane in the channel between the *Primorie* and the island of *Brazza*, to the great danger of barks surprised by it.

Not far from this place, *Cantelius*, whose chart of Dalmatia is adopted as one of the best, places the mouth of a river, which he derives from the lake of *Prolofax*, by him called *Brestolax*. But whoever knows the continuity and height of the mountain Dinara cannot admit even the possibility of such a river. Many writers on Illyrian affairs, and several geographers, have copied this error; and likewise the pretended island of the river Cettina near its mouth, and innumerable other mutilations of names, and distances.

Of the PAKLARA, or REMORA of the Latins.

I will finish this letter by relating a fact, to which you may give that degree of faith which you think it merits. You have
often

often read, in ancient naturalists, of wonderful things done by the *Remora*, or *Echeneis*, and not without some surprise will have learnt Pliny's story, who, after having told us, on the faith of another, how Anthony was retarded on his voyage by means of this fish, asserts positively, that a ship with Caligula on board and four hundred rowers, was actually stopt by one of those fishes, while the rest of the fleet went on at a great rate. When I read this, I contented myself to shrug up my shoulders, without perplexing my brain to find out by what natural principle, or matter of fact, such an opinion could become so generally received, that a man of sense, as Pliny certainly was, should affirm it in positive terms.* But chance led me to the discovery. We were sailing in a small bark between Vruillia and Almiffa with a fresh equal gale, in the afternoon. The mariners were all at rest, and the steersman alone was awake, and attended in silence to the direction of the bark; when, on a sudden, we heard him call aloud to one of his companions, ordering him to come and kill the *Paklara*. Our learned friend Signor *Guilio Bajamonti* was with me, and understanding what the man meant, desired him to shew him the fish that he wanted to be killed, but the fish was gone. Having interrogated

* *Ruant venti licet, & sæviant procellæ (echeneis) imperat furori, viresque tantas compescit, et cogit stare navigia—Fertur æliaco marte tenuisse prætoriam navim Antonii properantis circumire, & exhortari suos, donec transiit in aliam. Ideoque & Cæsariana classis impetu majore protinus venit. Tenuit & nostra memoria Caii principis ab æstura antium remigantis. Nec longa fuit illius moræ admiratio, statim causa intellecta quum e tota classe quinquaremis sola non proficeret. Exilientibus protinus qui id quærent circa navim invenerunt adhærentem gubernaculo, ostenderuntque Caio indignanti hoc fuisse quod se revocaret quadringentorumque remigum obsequio contra se intercederet. Qui tunc, posteaque videre eum limaci magnæ similem esse dicunt. E nostris quidam latinis Remoram appellavere eum. C. Plin. sec. Nat. Hist. l. xxxii. c. 1.*

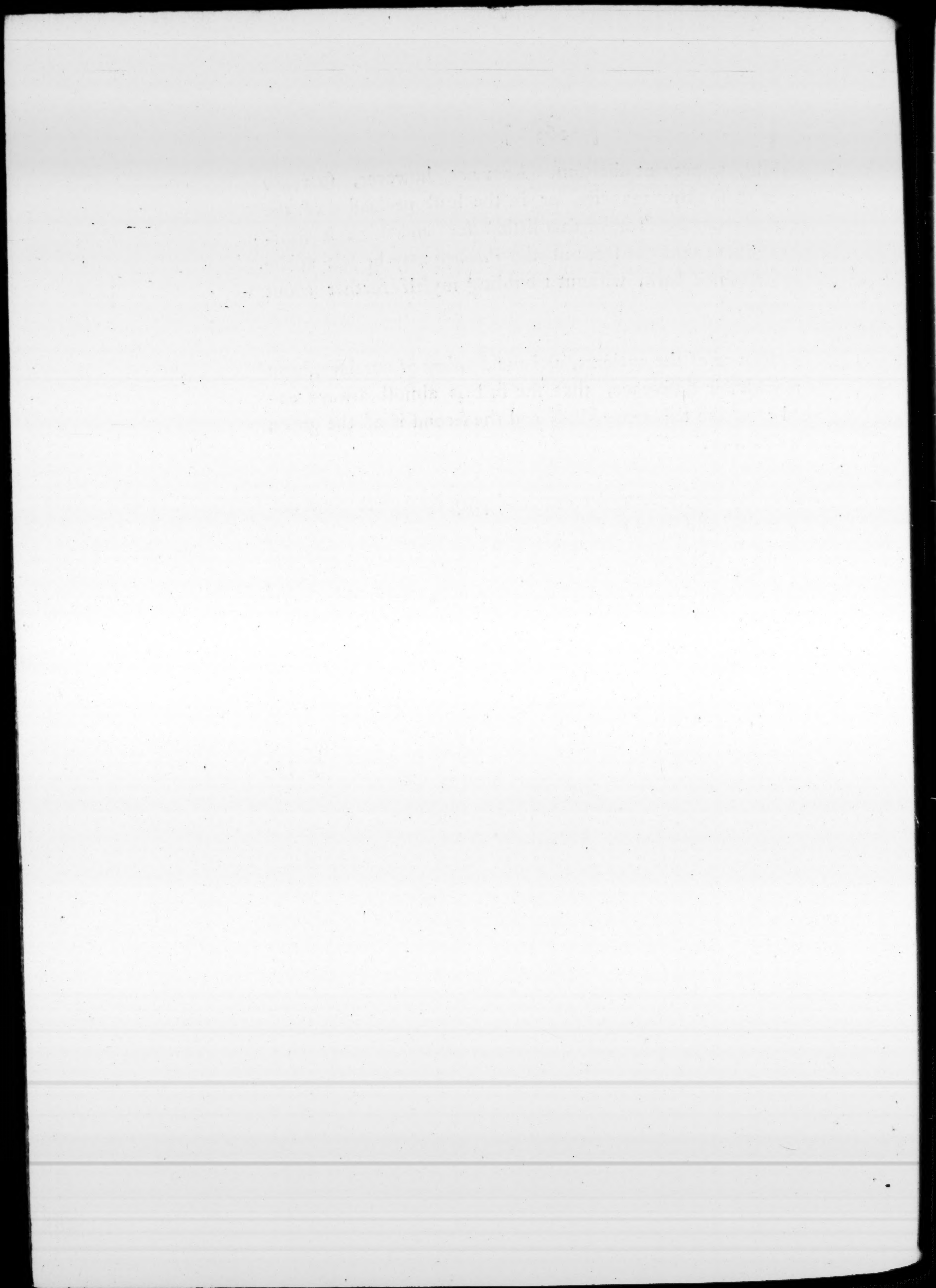
gated the steersman, who did not want sense, and was a fisherman by profession, why he had ordered the *Paklara* to be killed, and what harm it had done; he answered, without hesitation, that the *Paklara* used to take hold of the rudder with his teeth, and retarded the course of the bark so sensibly, that not only he, but every man who sat at the helm felt it there without seeing it. He added, that many a time he himself had caught the *Paklara* in the fact, and had frequently killed and eat it. That it was often met with in the waters of *Lissa*. That in shape it resembled a conger eel, and its length did not usually exceed a foot and a half. That if I had a mind to see, and catch one of them, I needed only to go in a fishing boat, in the warm season, between the islands of *Lefina* and *Lissa*, where he had never failed to meet with them every year. I will not desire you to believe every thing my pilot said; but confess that I should be very glad to see the *Paklara* when it had taken hold of the rudder of a bark under sail. The wonderful strength of the muscles of some little marine animals, such as the *Lepades*, that so obstinately resist any attempt to disengage them from their rocks; the stroke proceeding with such rapidity from the Torpedo, known at Venice by the name of *pesce tremolo*, and in the sea of Dalmatia by that of *Trnak*; the vigour shewn by the *Dentici* in their convulsive motions even when out of their own element; not to mention the larger fish, such as, Tunny, Dolphins, &c. give me ground to suspect, that, if all that the ancients wrote concerning the *Remora* be not just literally true, it is not altogether false. It is certainly a thing worthy of some reflection, that *Pliny* speaks so diffusely concerning this phenomenon, as of a known fact that could not be called in question. The Greeks also adopted the notion of this extravagant faculty, by superstitiously hanging the *Remora* about women with

with child, to prevent abortion. I am not, however, so ready to credit these extravagancies, or in the least persuaded of the wonderful retarding force of this little fish; and think it sufficient to believe that the force of the *Paklara* may be felt at the rudder of a small bark, without troubling myself further about the *Remora*.

The *Remora* of the ancients, and the *Paklara* of our days, have this remarkable difference, that the first is almost always described as of the testaceous kind, and the second is of the genus of the *Murænæ*.

Adieu, my most esteemed friend, and pray Heaven to grant me long journies, and good health.

T O



T O T H E
 H O N O U R A B L E A N D R I G H T R E V E R E N D
 T H E
 L O R D B I S H O P O F L O N D O N D E R R Y , & c .

Concerning the PRIMORIE, or PARATALASSIA of the Ancients.

TO your genius, My Lord, indefatigable in the search of nature's secrets, and which often leads you through rough and desert paths, rarely, or never trod by the great, and to that friendship with which you honour those who spare neither trouble nor fatigue in clambering over steep and rocky mountains, to read the ancient physical history of our globe, I owed my first excursion to Dalmatia, as well as the earnest desire of returning thither. Afterwards, when it became necessary that I must abandon that intention, by embracing your generous proposals to pass to the observation of greater objects, in more remote, and hitherto unknown lands, particular circumstances determined me to repass the Adriatic, instead of navigating the ocean. Upon this occasion I revisited that part of Dalmatia which I before had the honour of viewing only cursorily in your Lordship's company; and depending on my remaining at least two years in that kingdom, I furnished myself with preliminary informations, and advanced further into the country than the necessity of your affairs permitted you to go. But the plan of this

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expedition

expedition also being disconcerted by an unforeseen accident ; and being hence forced to content myself with the little that I saw, and under the necessity of proving to the world that I was not idle, I put my observations in such form as they were susceptible of, though not such as I would have chosen had I been able to have made them more complete. I rely so much on your goodness, My Lord, that I flatter myself you will not be displeased at my addressing a part of these observations, such as they are, to you ; and that you will accept of them as a testimony of my grateful and respectful remembrance of you, which no distance can ever remove or diminish.

Of the Town of MACARSKA.

That tract of sea coast which lies between the two rivers Cettina and Narenta, the first of which is the *Nestus* and *Tilurus*, and the second the *Narus* of the ancients, comprising what was properly called Dalmatia two ages before our Era, was known by the Greeks of the low times under the name of *Paratalassia*, and from thence was named *Primorie* by the Slavi. Appian tells us that the *Ardiei*, or *Vardei*, possessed a great number of cities there, partly built by them, and partly taken by force from the neighbouring nations subdued by them, before the invasion of the Romans ; and it appears by the *Tabula Peutingeriana*, that after the conquest, many of those cities remained, and were inhabited by the conquerors who also founded new settlements. And, if other proofs were wanting to confirm this truth, the many inscriptions dug up in all those parts near the sea, and sometimes even among the hills, afford sufficient ground to suppose it.

The

The pleasantness of the coast, the fertility of the soil, the convenient situation for commerce with the inland provinces, and the great plenty of fish in those waters, must have invited ancient nations, though barbarous, to form settlements there; but from their imprudent cultivation of the hills, and the necessity which they have, perhaps, been under of cutting down the woods for various uses, may, probably be derived the deterioration of the country, the loss of much ground near the sea, by its being covered with gravel, and the impetuous fury of the mountain torrents, which render a part of it uninhabitable.

Macarska, in our days, is the only town in all that territory, and, from its situation, may be supposed to have rose out of the ruins of the ancient *Rataneum* of Pliny, which probably was the same that DION CASSIUS calls *Retinum*. The subterraneous grottos, of which there are many in that neighbourhood, are analogous to those which, as that historian tells us, reached far within the mountains about *Retinum*, and to which the inhabitants retired, having first set on fire their city, with the Romans in it, when they took it by storm. After the total destruction of *Retinum*, the situation was not altogether abandoned; for we find it called *Muchirum* by Procopius, and in the sixth century, it was called *Mucarum*. In the same century, the council of Salona, preserved to us by *Tommaso* the Arch-deacon, created a Bishop of *Mucarum*; and the sepulchral inscription of *Stefano* the first Bishop of that see, was dug up in our days. Soon after, the *Avari* came, and took possession of the *Primorie*, and the plains of *Narenta*, which, after that event, got the name of *Pagonia*, because these new guests were idolaters, and had the denomination of *Paganini* in Illyrium. It might be conjectured that *Inaronia* was another name of this tract of maritime country, taken from *Narona* the capi-

tal; if it did not seem more reasonable to read it *Maronia*, with Tommaso the Archdeacon, and in that case, the barbarous word *Maronia* would be equivalent to *Paratalassia*, and *Primorie*. The anonymous writer of Ravenna mistakes *Mucarum* for *Inaronia*, which in the table is placed twelve miles to the east of *Onæum*, or *Almifia*; but *Mucarum*, perhaps, should stand seven miles further eastward, where traces of buildings are seen without any name. Porphyrogenitus gives the name of *Mocros* to Macarska, making it the capital of one of the three districts comprehended within the limits of *Pagania*, that is to say, in the sea coast between the mouths of the two rivers above mentioned. As the name of *Pagania* is derived from *Paganin*; so *Mocros*, and the corrupted names *Mucerum*, *Muchirum*, and *Muichirum*, probably come from the word *Mokar*, which signifies *moist*, or *watered*; and hence, agrees very well with the situation of Macarska, which is watered by several perennial rivulets.

Macarska, after having formed a part of the Narentan state for several ages, when those pirates were exterminated, passed, together with the rest of the *Primorie*, under the obedience of various christian princes, in the low ages; afterwards it became subject to the Ottoman Porte, and at last, in the year 1646, it gave itself voluntarily to the Republick of Venice, which received it, and gave the town many privileges.

Whatever may have been the former name of Macarska, certainly nothing ancient remains about it in our days. It is altogether new built, and is the only town in Dalmatia where no ruined houses, and heaps of rubbish are seen. The extent of it is but small, and the population not numerous; it has no fortifications

fications of any kind, and is actually without either gates or walls ; whatever modern geographers may say, and particularly Busching, who is also quite mistaken in placing it on the top of a hill. It stands at the foot of a great mountain, and stretches along the sides of its own small, and not very good harbour, * on plain ground. The air of this district was not very salubrious in the last age, through the unwholesome vapours exhaled from a standing pool of brackish water. The inhabitants came to a resolution of opening a communication between it and the sea, well knowing that a small tract of ground overflowed by fetid waters corrupts the atmosphere to some distance round it ; and, in fact, the issue corresponded perfectly well with their patriotic views ; and the population, that goes on augmenting, has enjoyed much better health since than it did before.

The people of Macarska have very lively parts, and apply themselves particularly to trade ; they also succeed well in letters, of which the *Abbè Clemente Grubbisch* gave a recent and signal example. He was born at Macarska of an ancient and noble family, and in 1773 was immaturely snatched away by death, from the republick of letters, and from his country, to which he was an honour ; from travellers who were at the same time instructed and entertained by him, and from his friends, by whom he was deservedly loved and esteemed. He has, no doubt, left some valuable MSS. among which the *Storia Narentina*, near finished, deserves particular mention ; and a treatise on the origins and analogies of the Sclayonic language, full of laborious erudition. This learned man, whose manners were worthy

* Maty, and *La Martiniere* give in their Dictionaries, a large harbour to Macarska

worthy of the golden age, had retired to a country house, where, by his example, he endeavoured to reform the awkward husbandry of the Primorians; at the same time, attending to his studies with philosophic tranquillity, and enjoying the sweets of a solitude, which he had rendered agreeable and pleasant. Monsignor *Kadcich* Arch-bishop of Spalatro, born at Macarska, was likewise equally distinguished by the nobility of his family, and by his learning. He published a course of moral theology in Sclavonian for the use of the clergy officiating in that language, and who had nothing of that kind to assist them before; and left his library, well furnished with ecclesiastical books for the benefit of his country. Neither ought F. Andrea Cadcich Mioffich to be omitted among the writers of Macarska, he having published a collection of national heroick songs; though it must be confessed that he shewed little good taste in the choice, and inserted many things trifling and apocryphal.

The soil about Macarska produces abundance of oil and wine, besides almonds, mulberry trees, honey and some corn. The nature of the ground is light, and gravelly, and does not want moisture, as the other littoral parts of Dalmatia generally do. It is easy to see that the exterior superficies has been formed by small torrents; and these torrents have hollowed their beds in the same substances that were triturated by them of old. A rivulet called *Vrutak* runs through the town, but its water is not sweet, nor wholesome, though it proceeds from a place much higher than the level of the sea. The water of the brook *Budiceviza* is therefore made use of; it is very pure and light, and runs down from the small village *Cotifena* into the sea near Macarska.

It seems, that, notwithstanding the quantity of gravel and mud brought down upon the coast, by the mountain waters, the sea has gained, and continually gains ground in those parts. In calm weather a piece of a wall is seen under water in the mouth of the harbour; and it certainly was not built under water in ancient times: and the rock called St. Peter's rock, which covers the harbour, is continually incroached upon by the waves, tho' they beat not with equal force there, as on some other promontories along the coast. The contiguous pool likewise, where the waters stagnated not long ago, because they had not a free course to the sea, afforded a proof of the rising of the level; for in digging the communication before mentioned, they found the remains of a magnificent tomb, and pieces of noble columns; and I saw at Macarska, a very beautiful medal of M. Julius Philippus, in gold, that was found in the same canal; neither of which certainly were placed originally in a situation covered by water..

Of the Mountain BICOVA, or BICOVO, that commands MACARSKA.

The highest mountain on all the coast of *Primorie*, is the *Bicova*, at the bottom of which the town of *Macarska* lies. This mountain appears white at a distance, and without any trees; so the names of *Albio*, and *Adrio*, which it bore of old, are both very suitable to it. The bare, stoney, and steep aspect of this uninhabited mountain, exhibits a view sufficiently ugly to dissuade an attempt to visit it. It is not possible to ascend it on horseback, and in many places, very difficult to climb on hands and feet. Notwithstanding which, the curiosity to see the natural conservatories of ice, which, in the burning heat of summer..

mer, maintain themselves in the caverns of the highest part of the mountain, induced me to attempt the ascent. My agreeable friend, Signor Guilio Bajamonti, consented to bear me company. We left Macariska at day break, with two Primorians for guides, without whom, my prudent friend did not chuse to go, not thinking it adviseable to expose himself to the chance of meeting Haideus, many of whom, secure by the ruggedness of the situation, inhabit like wolves, the caves of *Biocova*. I, less considerate, and more disposed to depend on the probity of these banditti, who indeed too often become so through the avarice of a rapacious minister, and not for their own crimes, would without much hesitation have gone alone. The back of the mountain is altogether ruinous, and the least impracticable paths that we could find, were those by which the rain water runs down. The gravel and broken stones gave way under our feet, and put me in mind of the fatiguing ascent of Vesuvius, in which I had the honour to accompany your Lordship, and where our steps forward, served sometimes to make us slide farther back.

The fine view of the sea, promontories, and islands, which we enjoyed from that height, was almost the only compensation for our labour. It was the beginning of October, and there was no ice in the reservoirs which we went to see through such disastrous paths—leaping from rock to rock. We went down into a very deep gulph or cavern, that receives light from above, and on one side pierces far into the bowels of the mountain; we found a very sharp cold air in it. Without, we saw wooden troughs, where the shepherds use to melt ice and snow for their flocks to drink. The mountain is almost quite bare of trees, even in the deepest and most inaccessible hollows; and very rarely, in proportion

proportion to its extent, the traces of ancient woods are seen; though no doubt, they have once existed in the impracticable parts of the mountain, and far from habitations, from whence it was physically impossible to transport large pieces of timber. But the fires kindled by the shepherds to warm themselves, and sometimes, perhaps, to enjoy a savage spectacle, have destroyed even the traces of large trees. They say, that in former times, the flames proceeding from these slender beginnings, continued sometimes for whole months.

The upper part of the *Biocova*, is composed of *breccia* and common whitish marble. In the masses of the first, as well as of the second kind, are found adventitious pieces of angulated flints, cracked without, and full of small marine bodies; but within, it is hard, close, almost transparent, and capable of a very bright and equal polish. The roots of this mountain extend along the sea side, from one end to the other of the territory of Macarska; and hence all the fossils, properly belonging to it, which I shall have occasion to speak of in this long letter, as I proceed in the course of my journey, to the different places where I observed and collected them.

But before I end this account of my jaunt to the *Biocova*, permit me to add, as a specimen of the character of the Primorian peasants, a little adventure that we met with in coming down from the mountain. The two men who went before us armed, according to the custom of the nation, happened to see a viper that was moving peaceably on near the path. They both ran furiously to kill it with stones; our intercession to let it alone had no effect; they said that it was a malefick demon disguised in that form, and even turned with horror from the way which

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they

they thought it might have touched. Signor Bajamonti, having said much to convince them of their ridiculous extravagance, went and took up the dead animal, which they were still staring at with frightened countenances, and stepped towards them, that they might see it was really dead. These two brutes presented their muskets to him, and broke out into the most injurious terms, and most decisive threats: and it was truly a piece of good fortune that my friend did not throw the dead snake at them, as he was going to do, for in that case they would undoubtedly have shot him. Now was he not in the wrong to be so desirous of Primorian guides for the defence of his person? We were told, by way of excuse for them, that superstition was the cause of all—so much the worse I think; and the excuse would be equally bad, if such extravagance could proceed from motives of true religion.

Of Meteors in the PRIMORIE.

From the mountain Biocova, as the Primorians say, proceed the winds, hail, rain, and every change of weather. The truth is, this mountain is their meteorological theatre. But their most diligent and accurate observations are those concerning the northerly winds; and I think they deserve to be inserted here, because my late friend Count Grubbisch, assured me that he had found them by experience very exact. Before the boreal wind breaks out, if there is any fog upon the Biocova, it is raised on high, and torn, and scattered a thousand ways; a roaring noise is heard within the mountain, which soon becomes dreadfully loud; and the air grows sharp. If there is no fog upon the Biocova, the clouds equally distended over that part of the sky, and an unusual coldness of the air announce the *Borea*. The shepherds say, and it seems

seems demonstrated by fact, that this wind comes out of the gulphs and chasms of the mountain. It is certain that it descends from the summit towards the sea like an impetuous and sudden torrent. The caves of Eolus situated in the high mountains, and the storms that precipitate from the heights, according to the ancient poets, shew that these observations have been made of old, by more polished nations. Seneca also thought that the winds arose from subterranean abysses, and forced their way through the apertures of the earth. When, by any accident, the woods of the distant parts of the mountain are set on fire, the boreal winds blow as long as the fire continues, but with moderate force, if the vallies, where the fire is, be but moderately deep; but this occasions a long drought.

This puts me in mind of what is related concerning the inhabitants of *Segna*, in the history of the war of the Venetians against the *Uscocchi*. The writers affirm, that those robbers, by lighting great fires in the woods, or throwing great quantities of burning branches into the chasms, raised the boreal wind, which hindered the enemy's vessels from coming near their coast, and sometimes was the cause of their loss in that dangerous channel. When a good deal of rain falls on the mountain, there is no *Borea*, or, if it begins to blow, it increases in violence only, in proportion as the mountain becomes dry. But if, after a long drought, there falls a little rain, then the *borea* usually blows; or when that does not happen, it is a sign that a southerly wind is near. If, after twenty-four hours of *borea*, the sky does not become perfectly serene, it is a sign that the wind will continue long, or change into a southerly wind or *scirocco*. The duration of the *borea* is commonly for odd days; that is, one, three, five, seven, nine, to thirteen, and sometimes to fifteen following days. This wind usually begins to blow when the sun or moon rise or

set. About break of day, and at mid day, it relaxes, and sometimes ceases; or when this does not happen, it is a manifest sign of a long continued violence. There is also a kind of periodical *borea*, that generally blows the seventh, seventeenth, and twenty-seventh of March; and that which blows about the feast of Pentecost is still more constant, and therefore has the name of *Dubovciza*. They pretend, that if the *borea* proves mild at that season, it will be so throughout the whole summer. When this wind is moderate, it is thought useful, and even necessary; especially after the vines and olives have been in blossom, because it carries off the dried flowers quickly: it is also beneficial to the vines, when they have suffered by too much humidity. But it is, for the most part, destructive to man, by causing pleurifies, and malignant fevers; and the intense cold it produces, is often fatal to small cattle feeding on the mountain. The fishermen say that it drives off the coast the *masse*, or swarms of emigrating fish; and when it rages in all its fury, it tears and breaks plantations, plucks up trees by the roots, dries and pulverises the earth, then carries it away through the air, or leaves it weakened and deprived of vegetable force. Sailors are afraid to trust themselves by night in the channel, between the *Primorie* and the islands of *Brazza* and *Lessina*, dreading the sudden fury of the *borea*, which precipitates from the mountain, or issues with equal violence from the bottom of *Vrullia*; and hence trade suffers much prejudice and interruption.

The *scirocco* and westerly winds reign also by turns in the *Primorie*, and consequently have been subjects of observation to the fishermen and seamen. They foretel the *scirocco* from the unusual height of the waters, and northerly winds from their lowness, and from the extraordinary rapidity of the currents. The periodical *scirocco* blows every year about Easter; it brings

brings heat, but not rain; its ordinary period is of twenty days, and it usually ceases at sunset. When this wind does not blow in the manner and at the time above mentioned, the summer is almost free of westerly winds, whirlwinds, and storms. But the *scirocco* is prejudicial to plants, drying and burning up the buds; though it hurts not men any otherways than by causing an extraordinary weakness and lassitude; inconveniencies that are fully compensated by a plentiful fishing, and a good crop of corn on the mountain. In the summer time, when the westerly wind ceases for a day, it is a sign of the *scirocco* the day following, which usually begins with a sort of whirlwind. These whirlwinds are like the ague, for, when not ephimeral, they return the next day about the same hour. Perhaps they might be prognosticated by making observations on the motions of the air before and after. They say, that sometime ago, there fell, in the heart of Bosnia, a shower of *Sardelle*, to the great terror and contrition of those poor Turks; if the fact is really true, it must be attributed to some *typhon*, or hurricane, of which there are many examples.

When it lightens in summer with a serene sky, it presages long drought; but if the lightning proceeds from a thick cloud, it indicates a storm of wind and impetuous rain. In winter, the lightning, which is frequent on the other side of the Adriatick, presages wind from the point opposite to the lightning. There seldom falls much rain after the loudest claps of thunder, and there is a Dalmatian proverb to this purpose; *Kad vechie gar mi magna dafgia pade*; the more thunder the less rain.

The rainy seasons in *Primorie*, are in the beginning of autumn, and in the end of winter. But if the winter and summer
happen

happen both to be rainy, all their products miscarry. In rainy summers, there falls, when the nights are clear, a reddish dew, which is very observable, especially to those who are at sea; and they pretend that this dew blasts the vines.

Snow and ice do not last long in Primorie, not even on the top of the *Biocova*, though beyond that mountain, and among the rocks of mount *Moffor*, they sometimes continue from one year to the other. When there falls much snow, there is plenty of all products, but especially of oil, and the more, if it falls early in the season; but the cold when late, does great damage, as it nips the juices of the plants in motion; and the smaller cattle are also much hurt by it. The cold indeed is never very sharp in those maritime parts, except when the *borea* blows, and without that, the month of January is as warm as April with us. The whole summer is generally hot to excess, and in the month of September, I suffered rather more by the heat of the air, than ever I had done in Apulia. Hail is less frequent, and smaller than in our part of Italy.

Of the Sea on the Coast of PRIMORIE, its Level, and concerning the Fishing.

In the tour which I had the honour to make with your Lordship, I thought I saw, in several places, constant and clear indications of the rising of the level of our Adriatick; of which rising, from the Roman to our times, both Manfredi and Zandrini were persuaded, though now it is denied by some, without any reasonable foundation, but rather in direct opposition to facts; and by others it is calculated in a less satisfactory manner than perhaps it might be. This is not a proper place to enumerate

merate the observations which the city of Venice furnishes in favour of this rising of the level. But it is well known, that the government is under the necessity, year after year, of heightening the squares which convey the water to the publick cisterns; because, since the XVI century, in which most of them were repaired, the sea rose above the pavements at high tides. The waters have also found their way into several churches there, though they certainly were built in such a manner as to keep the faithful on dry ground. The large square of S. Mark, notwithstanding its having been raised more than once, is nevertheless every now and then overflowed; and the waters passing over their former bounds, do sometimes considerable damage in warehouses. These manifest effects at Venice, the destruction of our dikes, the damage done to our *Valli*, or large conservatories for fish, and those of *Comacchio*, by the daily encroachments of the sea; the evident ruin of the port of Ancona, now no longer reparable at whatever expence, and of the adjoining hill visibly impaired; the submersion of the city of Conca, not far from Rimini; the foundations of *Ciparum* in Istria, now under water, which was demolished in DCCC; and many other similar observations, are at present foreign to my purpose. I am now only to treat of what regards the level of the sea along the Primorian coast.

On all this coast, from the mouth of the Cettina to that of the river Narenta, the sea has visibly lost a part of its ancient extent in superficies. The gravel, earth, and sand brought down from the mountains by the force of torrents, have filled up the hollows, and of a shore, which formerly in all probability did not want harbours, have formed one continued bank without any kind of harbour or bay. The sea rages now against

ganst this new ground, and goes on corroding it so much the more easily as the parts are not strongly connected together. And at low water nothing is to be seen in these places, where the worn shore rises perpendicular, but mountain gravel. The promontories, of which there are several that stretch out from the mainland into the sea, instead of being augmented or supported, as would be the case if the sea (as some perhaps may think) carried its own gravel to the shore, are daily diminishing in extent, and becoming rocks under water separated from the mountain.

To these general observations I shall add two particular ones which I took notice of on the spot. One was suggested to me by an inscription cut on a rock on the shore of *Xivogofchie*, in which mention is made not only of a fountain that now does not exist, but also of a tract of ground which it watered. At present the sea beats with violence against the rock where the inscription stands, and has already, by the reiterated percussion of the littoral gravel, done great damage to that valuable monument, which is now not all legible. The land, the garden, or at least the walk that led to the fountain, all which, according to the learned Signor Girolamo Zanetti, belonged to the Emperor Licinian, are all sunk, together with the fountain, under the elevated sea.

The river Narenta, and the plain overflowed by it, in which are buried the remains of the *emporium Narona*, furnished me with the other observation, which is but too applicable to our neighbourhood, where Adria and Ravenna underwent the same fate. The waters of the Narenta, retarded in their course by the opposite increasing height of the sea, have deposited a great number of banks of sand round about the mouth of the river, some

Some of which have formed low and marshy islands: but the sea revenges itself daily, for this apparent prolongation of land, by advancing always further up the bed of the river, and by forcing the waters, thereby obstructed in their free course, to spread themselves over the adjacent plain. By these means, that tract of land, which was once so fertile, and the seat of a rich and flourishing city, is now a vast unhealthful fen, from whence a few poor scattered families can scarcely raise a sufficient supply for a wretched sickly life. Yet still it would be no very difficult undertaking to reduce that plain once more to habitable and fruitful ground; it would at least cost less trouble and expence than the low *Polesine*, making allowance for the different circumstances of the situation; and by letting things remain in their natural state, the sea has forced the river to retrocede, and to overflow the land. The lake of Scardona has perhaps also been a plain watered by the *Tizio*, till the sea beat back the current of that river.

The channel that divides the peninsula of *Sabioncello* from the continent has all the appearance of having been in very remote times the bed of the river *Narenta*. For the hill which forms that promontory is not of volcanic origin, so cannot be supposed to have risen from under ground, or from under water, in its present state, but it has been manifestly separated from the continuity of the great mass that forms the continent, as the neighbouring islands have also been without all doubt. *Torcola*, a small island inhabited only by shepherds, has a quarry of fluviatile *tophus*, which certainly was originally produced by some tartarous river; and in the structure of the same island other distinguishable traces still remain of ancient channels. The same thing is observable on the island of *Lefina*, of which I shall take notice in its turn.

The depth of the Primorian sea is unequal, but generally considerable in the middle of the channel, which divides the continent from the islands, where it seems to be above a hundred and fifty fathom. But in the bay of Narenta, and between Sabioncello and Lefina, the depth is much less, and the bottom may be seen in calm weather. I happened to see in the waters of Cape S. George Lefina a thing that may serve to give some idea of the increase or growth of marine bottoms, by the accession of testaceous and polypous productions, that form a crust there, of which Donati treats in his *Saggio di Storia naturale dell' Adriatico*. That writer thought, after long subaqueous observations, he might conclude, that the waters of the sea are raised in level in some proportion to the height produced at the bottom by the importations of rivers, and by the crust just mentioned that he had found in various places, and especially under the deepest water. I shall forbear to examine whether, in reality, the height of the bottom can contribute to the height of the waters of a sea that receives them from the ocean, from whence it should seem that so much the less water would come in proportion as the bottom of the recipient became higher; and I will only say something relative to the crust. This does not at all seem to be produced in every place, for on some bottoms no such thing is seen, or can be extracted by any instrument whatever; and in others there is very little. Without the Cape of S. George already mentioned, in no great depth of water, there is a heap of ancient urns, which must have remained in that situation fourteen ages at least: many of these urns are also scattered at a distance from the larger heap, two, three, and four together. They are not quite buried; on the contrary, more than the half of their body may be seen, and they might be taken up with little trouble and expence. They are above a foot in diameter, and about
three

three feet high; and many of them bear the name of the maker in good legible Roman letters. It seems probable that some vessel loaded with kitchen furniture has been shipwrecked there. However the revolution of so many ages has not hid them under the crust of marine recrements observed by Donati; nor does the thickness of the crust on them exceed half an inch, though they are coated with it both within and without. That crust, therefore, is certainly not so universal as Donati believed, or pretended to believe; neither is it formed so quickly as some perhaps imagine; and hence the rise of the bottom of the sea cannot be very considerable. It is also probable, and agreeable to the laws of nature, that the depositions of rivers and torrents are lodged at no great distance from their mouths, from whence ensues rather a prolongation of continent than any observable change in the bed of the sea. These prolongations of littoral ground would produce, no doubt, as well as a quantity of additional matter at the bottom, an elevation of the level of a lake; but it does not appear to me that either or both these can have the same effect on our sea, which communicates with, and is levelled by exterior waters. But as the rise of the level since the times of the Romans is an indisputable fact, of which, besides those mentioned by me, Donati has given many proofs, we seem to be under a necessity of attributing it to some greater and more universal cause. The subsidence of the earth, by which some ingenious men have endeavoured to explain this phenomenon, does not suit well enough with places of a marshy ground, and those of rocky bottoms, to admit of equal effects. And it would be very difficult to reconcile this hypothesis to Venice, for example, if it must be supposed that all the buildings subside equally, though not all of the same date, nor built on the same kind of foundation.

I know not the manner of action of the sea around your island in parts at a distance from the mouths of rivers, or torrents, from which it does not seem reasonable to draw any conclusion, because the extent of the land is too visibly partial. But I know that in the Baltic, if we believe the testimony of Celsius, Dalin, and the celebrated Linnæus, the dry land is expanded, and the sea retires, manifestly subsiding in its level; though by a strange fatality, the theologists of the north chose to interfere in this business (and yet they speak ill of ours for meddling with such matters) and made so much noise in contradicting what the above-mentioned observers had asserted, that one knows not what to believe. But I have suffered myself to stray far enough from the *Primorie* without thinking of it; let us therefore leave those gentlemen to dispute as long as they please, and we will return to our waters.

The fishing of *sardelle* and mackrel, is the most plentiful of any on the coast of the *Primorie*. They catch these fish in the dark nights, and decoy them by means of lighted boats, which carrying at the prow, bundles of burning juniper or pine, and rowing towards the shore, great number of fish follow them into the nets. Each of these nets, which are called *da tratta*, require three boats; one larger, that carries the *tratta*, and two others furnished with faggots, by the light of which the fish are enticed into the nets. Every *tratta* has thirteen men, who become good seamen after a few years of that exercise, whereby they are often exposed to combat with sudden storms, or to overcome, by the force of oars, the obstinacy of calms, currents, and contrary winds. In former times, the art of fishing flourished in Dalmatia; but ever since the produce of it has been, through private interest, delegated to strangers, it is on the decline.

Among

Among other impediments to the propagation of the fishing, the scarcity and price of faggots is become one; for as they, exclusively, make use of juniper and pine to illuminate their boats, these two kinds of wood are now almost totally exterminated from the littoral mountains, and small islands. An easy remedy might be found for this inconvenience, by substituting a well contrived lantern, like those used by the French fishermen in the Mediterranean, who also fish for *sardelle* and mackrel in the night. This remedy would save no inconsiderable part of the expence necessary for a *tratta*, and fewer hands would also be required; a material article in a country so thinly peopled as Dalmatia.

The season of fishing for *sardelle* and mackrel begins early in the spring, and continues all summer, and a good part of the autumn, excepting a few nights before and after full moon, which are too light. The fishermen pretend to have observed, that the shoals of both the above-mentioned fish come from the middle of the gulph, and lose themselves in the channel of *Primorie* seeking pasture. They also add, that the food of which they are particularly fond, is certain kinds of the *ortica marina*, called by them *klobuchi*, or little hats, which drove by the wind, come floating to the shore: the mackrel and *sardelle* pursue them greedily, shewing particular eagerness to feed on these and other congenerous gelatinous animals, of which a great variety is often found in the nets. But it is very difficult to observe them, because, when out of the water, they are easily discomposed or dissolved. These emigrating fishes feed also on an insect called *morska bubu*, or sea flea, which resembles this *oniscus aspillus* of Linnaeus, and swims about in swarms, as does a species of *scolopendra*, little more than an inch and a half long, known by the fishermen by the general denomination of *gliftine*, or worms, and

and sometimes by that of *gliftine stonogbe*, or worms with a hundred feet. These poor insects in the night time, when the weather is calm, display a very bright silver light, which probably is the cause of their destruction. I have sometimes beheld them with great pleasure moving about in shallow water in the dark nights of summer.

Besides the two kinds of fishing mentioned, and the *tratta*, or drag nes, they use other nets for catching the *ghirize*, a small fish of little value, and used by the poor people only for food, or by the fishers of *muggini* for bait. The *ghirize* fishing continues almost all the year; but that of the *muggini*, only during the autumn on the coast of Primorie. Those fishes, in great rains or boreal winds, swim in shoals about the mouth of the river Narenta, where they meet for copulation. The Primorians fish for the *muggini* with one boat and nine men, by day light; two sentinels are placed on some eminence on the shore, to observe, by the motion of the water, from what part the shoals come, and to advertise the people in the boat, who dexterously throw their net in the proper situation and moment. This fishing, though of short duration, is generally successful, and frequently the boats return home quite full, in a few hours. The Primorians generally open and salt the *muggini*, as the custom is at Comacchio; but the fish is larger in Dalmatia; and at Macarska particularly, they extract the spawn, which being dried in the sun, keeps long, and is a delicious morsel. They are, by nice palates, reckoned even more delicate than those of Greece, though not so large.

It is not easy to calculate the quantity of salted fish circulated annually by the Primorians; that business being on a very bad footing

ing over all Dalmatia, as it is also in other places where the consequences of fishing are much more worthy of consideration. It is, certain that the inhabitants of Macarska, though in reward of their spontaneous dedition they enjoy several privileges in selling their products at Venice, generally content themselves to sell their salt fish to the subjects of other states. They say, they have been taught by experience, and find that it turns more to their account, to treat with merchants of the Neapolitan or Papal states, than with ours. They also say, that within these last twenty years, the fishing is greatly diminished, and that the profits are now hardly equal to the charges. I can scarcely believe however, that a real scarcity of fish is the cause of this, or that they do not come in equal plenty as formerly, to seek for food in the channel of Primorie; though that is not at all impossible, and may perhaps be owing to the deterioration of the ground or bottom near the shore, by the quantity of earth of disagreeable taste, and of barren gravel brought down by the waters from the mountains stript of woods. Yet it seems more probable, that the general and progressive decay of population in Dalmatia, is the principal cause of the decline of the fishing. Necessity obliges them to diminish, year after year, the number of fishing boats, and that, of course, lessens the number of bold fishermen who have courage to beat the sea, and to catch the fish even in cloudy nights, as they used to do formerly. It would be not only useful, but necessary to promote this business by proper encouragements, and thereby to increase the number of fishers to such a degree, as to incommode one another. The national marine would gain much by such a plan, besides the augmentation of the product, and the advantages of trade that might be derived from it. Your nation, my Lord, affords a grand example of the importance of fishing to a maritime power. It is

is true, that in the Adriatick we have no whales to encounter, nor the immense shoals of polar fishes that fill the northern seas; but it is also true, that our navigation is not usually directed to America, nor to China; and therefore a fisherman accustomed to beat our sea in all weathers, becomes an excellent mariner for all our occasions.

The common fishes of those waters which wander alone, or at least not in shoals, such as *dentici congri*, *orate*, and others, are also caught by night, with illuminated boats; and the Primorians are wonderfully dexterous in striking them with the *foscina*, which is a long wooden lance, armed at the end with a sort of iron comb, of which the teeth are made after the manner of a fish hook. The *tonni palamide*, *lizze*, sword fish, and *goffi*, are also frequently seen at the tables of Macarska.

The dolphins, and *tursioni*, which are of the same genus, wander with full liberty in those waters, as no body hitherto has thought of drawing advantage from this small species of the *cetacei* of our sea. The Dalmatian fishers have a kind of friendship and gratitude to the dolphins, giving them the merit of chasing the fish towards the illuminated boats, whither they are furnished with nets or the *foscina*; and in the last case, the fishermen do not fail to throw some large fish over-board to the dolphin, as if to share the booty with him. If I had had time and opportunity, I would have endeavoured to convince some fishermen, less unreasonable than the rest, of the damage that these voracious animals actually do to the fishing, and of the advantage that might be derived from salting their flesh, and melting their fat into oil.

The

The *Phocæ* rarely appear in the channel of Primorie, though they are frequently seen near the mouth of the Narenta. They love the grounds that are interrupted by rocks and small islands, on which they go often out of the water to enjoy the open air; and hence they are frequently met with on the coasts of Istria, and among the islands of the Quarnaro.

The inhabitants of the sea coast attribute to this amphibious animal a great propensity for grapes, and positively affirm, that it uses to land in the night time, and eat the bunches of grapes from the vines in the proper season. There are three sorts of poisonous or hurtful fish, that are often found in the fishing nets; the *colombo*, or dove-fish, called in Slavonian *xutuglia*, or *xutizza*, on account of its yellowish colour; it is the *pastinaca marina*, the *park*, or spider, and the *scarpæna*, or scorpion fish. The poison of these fishes lies in the puncture of a sharp pointed bone on their backs, and which the fishermen shun with great care. But if, notwithstanding their precautions, they happen to be pricked, they apply, for the wound of the *scarpæna*, the gall of the animal itself; and for that of the *pauk*, and *xutizza*, the white gall (as they call it) of the cuttle fish, in their dialect *ligbna*, or *oligagn*, almost according to the Latin. But the best remedy of all is, a strait bandage on the part offended, and an incision by which the poisoned blood runs out. The torpedo is very common in those parts, and is called *Trnak*; the numbness of the foot or hand, occasioned by touching it, does not use to continue long, or to have any consequence.

The shell fish of this sea form no remarkable article either in regard to variety or beauty. The *Pinnæ*, which in some places of a muddy bottom grow to the length of two feet, give a bad

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kind

Kind of pearl of a leaden colour, and that kind of silk of which your Lordship has seen some manufactured in Dalmatia. Yet a naturalist, who chose to employ himself entirely in the study of shell fish, and Zoophytes, would find ample provision for his curiosity in the bottom of the Adriatick, and might collect together a great number of good observations, in which, to speak plainly, Marfigli and Donati did not proceed very far. The stoney and woody labours of the Polypi are certainly very numerous and various in these subaqueous depths, and now and then some pieces of Madreporos and coral are found in them. The coral fishing has been for some years past on the decline, perhaps through negligence, on account of a series of unfavourable combinations that have discouraged those who farm it.

*Concerning the Villages along the Shore to the east and west of
MACARSKA.*

At the little village of *Brella*, which stands on a height by the sea side, near the *Krullia*, which is probably the *Peguntium* of the ancients, and the *Berullia* of Porphyrogenitus, the territory of Macarska begins. The small extent of ground, that lies between the foot of the mountain and the sea, forming a narrow stripe along the shore, and also the contiguous hills, are very ill cultivated; the greatest part is left for pasture, though it might be employed to much greater advantage by planting vines. It is true, the nakedness of the mountain above it justifies, in some measure, this neglect of the littoral ground. Yet notwithstanding the too frequent blasts of the *Borea*, all the Macarskan *Primorie* bears olives, vines, and other delicate fruits very well; and some of the last are now beginning to be introduced after the example of the Poglizani, who cultivate them
in

in their district, and form an article of trade, though they have not yet acquired the knowledge of meliorating the species by means of grafts. They however have excellent *Marasche*, a kind of cherry, the nut of which gives a particular flavour to the spirituous liquor known by the name of *Maraschino*, of which a great quantity is distilled in Dalmatia, and especially at *Zara* by the Signori Carfeniga.

Next to the olive and vine, the fig and almond trees yield the most considerable produce in that district. The culture of the two first kinds is not generally well understood there; for in one small field they use to plant, without any order, olives, figs, and almonds, among the vines; these last are planted at the distance of two feet one from the other, and the sprigs are left to spread on the ground without any support. The yearly produce of the vines does not amount, one year with another, to above four *per cent.* the necessary charges deducted. The age of the vine does not exceed thirty years; but the assemblage of so many trees, which draw their nourishment from the same ground, causes it to decline much sooner; and so much the more, because it gets no manure, in consequence of the savage method of those people of never houseing their cattle, and of the scarcity of fodder. When the vines are exhausted, it does not answer to plant new ones under the shade; nor, on the other hand, does it turn to account to root out the fruit trees. The Primorians, in this case, usually sow the land, and the time and labour they employ is generally ill repaid by the crop. Their plows are suited to the smallness of their oxen, and go to very little depth in the ground. This ignorance in agriculture is general, less or more, over all the province, and hence the people, after much hard labour, is reduced to live some months

every year on wild roots, for want of other provision. All the villages of the Primorie are well situated, and both the air and water are excellent. *Baſt*, which is built on a hill, has its water from a spring near the sea, which gives the name of *Baſka-voda* to a little group of cottages on the shore. About this spot inscriptions, and other stones cut in ancient times are dug up. A pilaster that had been found there lately furnished me with matter for observation. It is of calcareous stone composed of marine fragments especially of *Petrobrii*, and bones or shells of *Echini* petrified; a bituminous fluor, that probably insinuated itself before the stone became hard, has given it a dark grey colour. Those who dug up the pilaster, on striking against it with their spades, felt a strong smell of pitch; and hence they brought me to see it as a curiosity. I caused several splinters of it to be knocked off, and they sent out a very strong smell, nay they actually exhale still when I rub the one against the other.

The hills of *Baſt* flank the roots of the mountain *Biocova*, and extend all along behind the town of *Macarska*, always close to the mountain. On these hills stand the hamlets of *Velo berdo*, *Macar*, and *Coteſina*, from the two last of which small streams of good water run down, and, after a short course, fall into the sea. The maps of Dalmatia confound all the situations hereabouts, and corrupt the names of places so strangely, that it would be tedious to take notice of them in detail; your Lordship may more easily compare them with my topographical map, rectified, I may say, foot by foot along all that shore.

In the small village of *Tucepi*, by the sea side, is situated the pleasant villa of the Abbè Count Grubbisich, a learned, useful and hospitable philosopher, whose untimely death is justly lamented

mented by all who knew him. He had formed the design of reforming, by his own example, the ill understood husbandry of the Primorians; and would certainly have succeeded had he enjoyed a length of life proportioned to his merit. Count *Grubbsich* began by studying the climate of the country, and the nature of the land; and in consequence of long and reasoned observations had determined on a new plan of cultivation. The vines of his possessions at *Tucepi*, on the sides of the hills, were raised three feet from the ground, and fastened to small poles planted longitudinally, like hedges, transverse to the reigning wind, which is the great impediment to high plantations in those parts. Convenient spaces were left between the rows for sowing corn, in order to draw two products at once from the same ground without exhausting it. The grapes ripened better, were in greater plenty, and of a more perfect quality; and the vines, being pruned after the manner of those on the hills of Italy, promised a longer duration. The fruit and mulberry trees were disposed round the cultivated fields, so as not to hurt the corn or vines by their shade. He planted the olives by the sides of the paths without the fields, having observed that they succeed better there than when surrounded by other trees. The dry walls by which the land of *Tucepi* is sustained resemble the best contrived in Tuscany, or the Vicentine territory, from whence also the Abbe Count had taken his plough suited to the hills, with four wheels, and drawn by four oxen; very different from the manner the Primorians, who only scratch the earth with a very light plough without wheels, and drawn by two little animals.

To secure his experiments against all exception, he had chosen a situation much exposed to the wind, subject to other disadvantages of climate, and of an untoward soil; knowing very well

well that the success of trials made in places near the water, covered from the winds, and of a manageable soil, is attributed to these favourable circumstances, and not to the skill of the cultivator. My judicious friend was desirous that Agriculture should be treated by the possessors of land, in the way of fact and experience, and not by deductions, conjectures, and compilations of those who have not the practical part before their eyes; hence he did not much esteem periodical papers that treat on this subject; and disregarded all experiments, unless when made in the open fields. According to his mode of thinking, as Alpine plants transported into a botanical garden ought not, for medicinal uses, to be preferred to those gathered on the mountains; so experiments made on lands inclosed, prepared and watered, are of little consequence, unless they succeed in large open fields, or on hilly ground.

The hills of Primorie are partly rocky, and partly cultivable, yet there is need of much industry and fatigue to reduce these last into culture. Besides the cretaceous and clayey lands that are capable of improvement, there are certain stoney strata of the same nature, which being dug up, and exposed to the action of the sun and rain for sometime, become a very good soil for vines, but unfit for olives or grain. This kind of earth, which moulders into very small rhomboidal parts, is called *Bigar* by the Primorians. The cretaceous earth of a blueish colour is sometimes mixed with very minute sand of torrents, or with a whitish earth proceeding from the dissolution of calcareous marble; in which case it bears a good crop of corn if not scorched by too dry a summer. The stone most common in these hills is the whetstone, called *Brusniza* by the inhabitants, in which sometimes fragments of marine bodies are discovered, and some-
times

times none. The quality of this stone is observable, it being, for the most part, rusty without, and almost always of a blue colour within; those who build on the brink of the sea, chuse it for the foundation before all others. There are also some strata of *Alberese*, a sort of limestone, and various kinds of marble; among which is a mass of beautiful red *Breccia* on the lands of Count *Grubbisch*. In ascending the beds of the torrents near the pleasant villa where I was lodged, among the banks of my good friend, I collected several varieties of aggregate stones. The clefts made by these eventual waters are not deep enough to give any precise idea of the internal structure of the hills, their beds being generally flanked by matter brought down in ancient times from the mountain, before the torrents were restrained by men within a fixed course. Near the church of the *Madonna di Tucepi* I collected a very curious species of white marble all tinged with red serpentine lines running almost all regularly in the same direction.

Near that country church, which is surrounded by its sacred wood, there are many ancient Slavonic sepulchres, without any inscription, but with various bass-reliefs. The tomb stone of one of these has a warrior strangely clad. On his head is a sort of cap, and above that is raised a very sharp cone; from which ornament perhaps the tradition is derived, that under this stone the bowels of a Doge of Venice, who died in war against the Narentines, were buried. This Doge might have been Pietro Candiano, who died in an expedition against the Narentines near a place called *Miculo*. But the tombstone, of which I took a drawing for curiosity, appears to be Slavonic, and the sharp pointed cap is also Slavonic, as may be seen in the seal of

of a Diploma of King Dabiscia, which ought to be among the papers of my deceased friend.

Inscriptions, both Roman, and Greek, have been found near the village of *Tucepi*, but they have been transported to Italy. It is probable that, in the district called *Favorae*, the *Laurentum* of Procopius was situated, as the signification of both words indicates equally a place planted with laurels. Natural caverns are very common in these parts, and, almost in every village, some of them are fortified with walls, and sometimes with a kind of small castles of barbarous ages and architecture. It is probable that in former times they served as retiring places to pirates, as they afterwards did for refuge to the inhabitants against the robberies of the *Uscchi*.

Three submarine springs are to be seen near the shore of *Tucepi*, which no doubt are supplied with water, either by the large reservoirs on the other side of the mountain, or by some of those rivers, which, not finding their way to the sea, sink into the abysses. One of these springs is called *Smerdagliac*, i. e. *sinking*, on account of the fetid smell, which, as the inhabitants say, it uses to send out. The lands in the neighbourhood are called *Pakline*, or places abounding with pitch. They say that the ill smell of this spring is not constant, and we risk not much by taking their word for it. This is certainly fact, that the spring *Smerdagliac* is not always perceived to bubble up setting in motion the surface of the sea; it sometimes remains quiet whole days; frequently appears and disappears more than once in one day. The copious rains on the other side of the mountain, and the subterranean windings through which those waters must find their way to the sea, are perhaps the causes of
this

this inconstancy: and the bituminous smell may perhaps proceed from some subterraneous fire, or fermentation, sometimes more and sometimes less violent.

Not far distant from *Tucepi*, the village of *Podgora* is situated on an eminence, and commands a very beautiful tract of littoral country, the most fertile, and best cultivated in those parts. The small promontory of *Dracevax*, that stretches into the sea under this village, merits observation. The upper strata that form it, are of *breccia*, and the lower, which are of whetstone, have veins composed of cubick pieces, and placed like a wall. Two of these walls jut out enclosing a kind of platform of earth in the middle; the order of the cubick pieces is inclined towards the sea. Below *Podgora* a little brook arises, which, at the end of its very short course, turns the mills of *Jarechine*. Perhaps, from this brook, incorrectly marked in some chorographical map, Cantelius was induced to place, between *Podgora* and *Drafnize*, a river descending from the neighbourhood of *Imoski*, from whence it is quite impossible that the waters could pass over the mountain *Biocova*. It is very probable however, that from thence proceeds the submarine spring called *Vrugliza*, or *Mala Vrullia*, which shews itself in the bay near *Drafnize*. It rises very briskly at the foot of a steep part of the hill, from the bottom of the sea, which, in that place, is considerable, and draws a great number of fish to it.

I went to *Drafnize* to see a Roman inscription that ought to be there, but was disappointed by the uncivil Curate of the place, who kept it concealed, for the usual causes of suspicion and ignorance, which are very strong in that country against strangers. I was obliged to content myself with copying two

Slavonic inscriptions, the one for the singularity of some of the characters, and the other because it indicates the time when the *Herceg* Steffano passed through that country.

In the *Primorie* they celebrate the virtues of a small spring of water that issues from a high rock not far from the church of *Drafnize*, and falls into the sea after running down the rock. They say it is as light and perfect as the water of *Nocera*; and it has been kept in flasks for many years without spoiling. The inhabitants make frequent and successful use of it in their simple medicine. It certainly has the qualities which Hippocrates prescribes, for it is *κεροτατη, και γλυκωτατη, και λεπτοτατη, και λαμπροτατη*. It would be well to compare those waters together, with more precision, by way of analysis, and by repeated trials in our hospitals; since even the article of *Nocera* water draws no inconsiderable sum of money out of the state. It is true, that the very name of water of Dalmatia would at first have no agreeable sound in the ears of people of fashion, but the patronage of two or three physicians in vogue might soon overcome that prejudice.

Near that spring I collected several adventitious pieces of very fine statuary marble, evidently detached from superior strata at no great distance from the sea, and a beautiful red marble, very compact, of a fine grain, and worthy to be employed in any ornament of the noblest buildings.* If the travelling naturalist was always furnished with the necessary means of bringing back to his own country ostensible proofs of

* *Calcareus micans, ruber*. Waller. §. 41. 2 c. and also
Calcareus æquabilis, incarnatus. Waller. §. 41. 1 c.

of the usefulness of his observations, I should have returned to Venice with slabs, or pieces of the finest littoral marble, enough to make the artists in love with the productions of that kind within our own state. I would also have brought a good quantity of the water of *Drafnize* secured in proper vessels, that our learned and sincere physicians might have made the requisite examination and trials. But it not being possible, with private support, to do all that might be done, I was obliged to content myself with indicating the useful things I discovered, leaving the rest to time and fortunate accidents.

Not far from the spring of *Drafnize* there is a chapel dedicated to *St. Rocco*, where an ancient bass-relief was honoured for many years, till, not long since, it was sent to Venice. It represented a Satyr half covered with a mantle of goats skin, with a staff in his hand, and his dog near him; some part of his body appears as of a keeper of gardens. An iron grate placed before it defended it from too profane hands, but did not hinder the good women and girls of the neighbourhood from expressing their devotion to their *St. Rocco*. This improper object of superstition was taken out of its niche in the night time; and the next day there was almost an insurrection among the people of *Drafnize*, and they could hardly be kept within bounds, when they were told, that their pretended saint was carried away by the command of a respectable court.

Almost all the villages of *Primorie* have springs of good water, and several of them are in great repute for their salubrity. This title could not have been denied to the spring of *Xivogofchie*, in the praise of which two epigrams, taken notice of before, are engraved on the rock above the sea; one of which calls the wa-

ter salubrious; but now there is no spring there. There is still a perennial spring at the village, further back on the side of the hill, near the convent of Franciscan friars. There is also a spring of water at *Dervinich*, where a castle stood in old times, of which the ruinous walls are still to be seen, and where Count *Grubbisch* copied an ancient Slavonic inscription in very neat Cirillian characters. Not far from this castle, to the left of the road, on the mountain, there stands a large sepulchral stone, set on a proportionable base, adorned all round with gothic moldings, and in the middle is a bass-relief, with several figures ill designed, and, among others, a warrior killing a wild beast. This isolated tomb, contrary to the Slavonic custom, belongs to the ancient family of Costagnich, now settled at Macarska. Little more than a mile from *Dervinich* lies *Zaostrog*, the Περσωνογία of Porphyrogenitus, where two Roman inscriptions are to be seen in the church of *S. Barbara*. On the brink of the sea stands a convent of Franciscan friars, who lately, in building their church, have employed a very great quantity of ancient monumental stones, and taken care to efface all the characters. They collected them in the neighbourhood, and particularly from the ruins of Narenta; and who knows how many valuable memorials are destroyed through their fanaticism! Along the shore of *Zaostrog*, which is without any harbour, and exposed to all winds, I collected pieces of cretaceous fluviatile *stalactites*, with impressions of alder leaves, very like that found near Rome on the side of *Monte Pincio*, where, in other times, perhaps, the Tiber run. There are likewise among the gravel thrown back by the sea, though originally brought down by the mountain torrents, adventitious pieces of a bituminous scissile stone, of thin parallel *laminæ*, of a smooth grain, and a very fetid smell on being

Being rubbed, which corresponds exactly to the swine stone of the naturalists,* and does not ill agree with the *bitumen marmoreum fœtidum, compactum* of Linnæus. The exterior superficies of the pieces exposed to the air is ash coloured, and agrees with Dacosta's discription, but the interior part is black. Along the same shore I collected petrified *numali*.

From *Zaostrog*, to the mouth of the river Narenta, at the foot of the mountain, are the hamlets of *Brist* and *Lapcagn*; and behind the promontory, within land, the lake of *Bachina* ought to be added in the best maps. The mountains, that surround this lake, are more rough and stoney than the rest of *Primorie*, yet, notwithstanding, they were in old times better inhabited than they are at present. The ruinous castle of *Gradaz*, and the burying place of *Slavinaz*, where probably the *Labieniza* of Porphyrogenitus stood, confirm this. They say that the *Bachinsko Blato*, that is, the marshy lake of *Bachina*, besides eels, which it has in common with other lakes of the country, contains fish peculiar to itself: but it would be needful to fish there more than once to ascertain the fact.

Of the Whirlpools of COCCORICH, the Lakes of RASTOK, JEZERO, and DESNA, and the River TREBISAT.

I set out from the convent of *Zaostrog* to see the temporary lake of *Rastok*, from which I had read in several geographers that

* *Calcarius fissilis, unicolor, fuscus*, Wall.

Schistus fusco cinereus, lapis fœtidus dictus, Dacosta 170. 9.

Lapis suilli particulis granulatis (rather *impalpabilibus*) Cronst. 23.

Bitumen marmoreum, fœtidum, compactum, Linn.

that the river *Norin* rises, though the inhabitants of *Primorie* contradict that assertion. I took the road of *Dervenich*, to pass over the mountain *Biocova* on horseback; but it was not possible for me to pursue the journey so much at my ease. The paths of the highest part of the mountain run often between craggy masses, and sometimes on the brink of a precipice. Having got over the top of *Biocova*, I continued my route sometimes a foot, and sometimes on horseback, preceded by the guides that the courteous Voivod *Pervan* of *Coccorich* had sent me. The road which the Morlacchi take on foot, from *Zaostrog* to that inland village, is only five short miles: but they travel with wonderful dexterity, climbing up the steepest rocks, and descending with surprising agility, from rugged cliffs which seem impracticable without wings. I spent six long hours in passing the mountain by a bridleway, and at last arrived at the habitation of the good Voivod, who received me with sincere cordiality. This habitation is built in the form of towers, after the Turkish manner: I was lodged in a tower part, from which I passed to dinner and supper in that of the family. The wife and daughter-in-law of my host appeared to kiss my hand when I entered, and were seen no more till the moment of my retiring from table. The young women of the house placed themselves at the chinks of the doors, to look at me and my draftsmen, as two strange animals both in dress and manners. The venerable old man sat with us at table; and the victuals, dressed in the Turkish fashion, were brought in by his son. This Voivod is a respectable person in his small district, and really has talents without their having been cultivated in a city; in his youth he composed many armorous and heroick verses.

He talked to me of certain whirlpools, from which sometimes, in the autumn and spring, the water issues with great violence,

violence, and in such abundance, that the valley of *Coccorich*, which is at least three miles long, becomes converted, in the space of a very few days, into a deep lake. Pervan's habitation is situated on the back of a hill, and the descent from it to the bottom of the valley is considerable; yet, notwithstanding this elevation, the water rose suddenly, in one night, to such an extraordinary height, that it gained the second story of the tower where the good old man lay; and it was with difficulty that he could get out on the other side. I went to see one or two of these whirlpools, which all resemble one another. The brushwood that surrounds them, is covered with moss, and black *conserva*, which gives it a melancholy look. The largest whirlpool is twenty feet in diameter at the top, and a hundred and twenty deep. In the bottom there is always water; and some years ago both the quantity and level of it were ascertained. They found twelve feet water, and the level corresponded with that of the lake of *Jezero* a few miles distant. After the great rains in *Bosfina*, these whirlpools, or *Jame* as the Slavonians call them, throw up columns of water to the height of 20 feet. In 15 days the lake of *Coccorich* uses to rise to its greatest height, which sometimes exceeds the ordinary measures by new rains, or the melting of snow in the inward parts of the country; yet in two months time the ground becomes dry. A prodigious quantity of fish rises out of the bowels of the earth with these giantick fountains; and when the waters begin to fall, the inhabitants catch a great deal with nets adapted to the mouths of the whirlpools. The small depth of earth on the valley of *Coccorich* prevents the air from becoming bad after the waters sink down again.

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A short mile from the Voivod's house there is a mine of *Pis-sasphaltus* identically like that of *Bua*. It appears that the Turks worked it before the Venetian arms took possession of that tract of country; but it is not likely that they could draw much profit from thence, on account of its distance from the sea, and the inconvenience of the road. The substance of the marble that forms the exterior surface of the hills of *Coccorich*, and *Vergoraz*, is alternatively *breccia*, in some parts full of ceratamorphous, and in others of lenticular bodies and *nummali*.

Vegoraz is a wretched fort, that, in other times, defended a village well peopled by the Turks, who notwithstanding the intermediate mountain, judged it a convenient place for trade, as being at no great distance from the sea; but it is now a heap of rubbish, and inhabited only by a few poor families. The fields that lie under the hill of *Vergoraz* are all subject to be overflowed, whereby the inhabitants are often reduced to want, and consequently to the necessity of robbing, or of going to work on the Turkish lands. A superintendent administers justice in that small district, and is usually of the family of the *Furisi* of *Almiffa*, which chiefly contributed to take the place from the Turks.

At the foot of *Vergoraz* lies the valley of *Rastok*, which is very level, and of no inconsiderable extent in length and breadth; the part of it, that runs in between the ridge of *Vergoraz* and the craggy hills on the Ottoman confines, is traversed by a branch of the river *Trebisat*, which, instead of running towards the east, takes quite a different course, and falls in with the roots of the mountains at a place where they form an arch. Meeting with opposition from them, and the gravel of an eventual

tual torrent, the *Trebisat* turns to the left, but instead of returning to its natural course, it divides itself into several branches, and falls into certain whirlpools, which are open in that plain to receive it. At the time I was there, the waters that use to fill the valley of *Rastok* forming a temporary lake, were all gone; and therefore I was able to examine the river nearly as it was actually falling into those gulfs in several places. The people of *Vergoraz* have built fences of dry walls at the mouth of the whirlpools of *Rastok*, and fitted their nets to the remaining apertures to intercept the fish that otherwise would escape under ground. It is plain, that the ill advised avidity of thus catching a few fish tends to diminish the mouths of those drains, and consequently retards the drying of the overflowed fields, to the great damage of the inhabitants of the district. Whither, and through what subterraneous caverns, these ingulfed waters of the *Trebisat* are conveyed, I know not; but perhaps those who send them to produce the river *Norin* twenty long miles distant, without even telling us that they make this journey under ground, are mistaken. In like manner I find in the *prolegomena* of Farlati another false assertion, regarding the river *Lika*, which disappears much in the same way as the *Trebisat*. That learned author makes it fall into the sea near *Carlobago*; though it is a fact that the river *Lika*, arising near *Graccaz*, loses itself under ground, at the foot of the mountain *Morlacca*, in the valley of *Cozigne*, a day's journey distant from the sea; and the stream *Gaschiza*, or *Guschiza*, after passing under *Ottacaz*, falls into the gulfs at *Suizza*. It is true, they say, that some wooden vessels, carried away by the river *Suizza*, were found in the sea near the village of *S. Giorgio*, on the channel of the *Morlacca*, where there are submarine springs; and they will also have it, that the submarine springs near *Starigrad* proceed from the ingulfed river *Lika*; but notwithstanding all this, a geographer ought not to mark the mouths of rivers in such places. Contelius also, ac-

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cording

according to this method, might be in the right to put the mouths of two rivers proceeding from the lakes of *Prolofar*, and *Imoski*, where the two *Vrullie* are seen in the sea; though between the lakes and the *Vrullie*, there are twenty miles of intermediate mountains.

The chain of craggy hills of *Vorgoraz* reaches to the eastward as far as the sources of the *Norin*, and divides the Turkish territory of *Gliubuski* from the lakes of *Jezero*, *Jeseraz*, *Desna*, and *Bachinsko Blato*. The first of these, which I visited, is above ten miles in length, and has several little islands and rocks covered with wood, that afford a pleasant prospect when beheld from the tops of the hills. All the circumference of *Jezero* is mountainous; I saw it from *Prologh*, where I went to copy some Slavonic inscriptions. The water of this lake, called *Jezero* by way of excellence, as being the largest in those parts, is very pure and limpid. In some parts of it the ruins of houses are seen at the bottom; which adds some credit to what the inhabitants of the neighbourhood relate, that, in former times, the lake was cultivated fields, and the waters sunk in gulfs, or subterraneous *Jame*, which were filled up by the Turks on their abandoning the country. Yet there still remains one outlet towards the south, where it falls into the cavern of *Czernivir*; and as the people of the country say, after running two miles underground, forms the lake of *Desna*, then it falls into the *Canal-nero*, which mixes with the river *Narenta* at two miles distance from the sea. The lake of *Jezero* is however sometimes dry, and shews a rich soil to the Morlack husbandmen, who take advantage of the juncture as well as they can; and the same lucky circumstance sometimes happens in the valley of *Rastok*. *Jeseraz*

raz is a small lake, and remains dry almost every year, unless when there happen extraordinary falls of rain.

The country that lies between *Vergoraz*, the Narentine marshes, and the sea, generally speaking, is little adapted to culture, being alternatively covered with water, and stoney hills: but the fields watered by the *Trebisat*, beyond our confines, are of a very different nature. Yet, through the carelessness of the Turks, they are suffered, for the most part, to lie under water; for the river has no kind of banks, and is even suffered in several places to be impeded in its course in the middle of the plain. The waters of the *Trebisat* are tartarous, and in places, where it dilates itself, the upper stratum of the ground is often composed of pieces of straws, herbs, and *Nerites*, coated with a cretaceous concretion. I collected some for curiosity while my guides were at dinner. On the side of this river are large tracts covered with brushwood and brambles, through the middle of which the ancient military road lay, that maintained the communication between *Salona* and *Narona*. I went down to the military way to examine some old Slavonic monuments in a burying place that lies near it; but could not look for inscriptions, because the bushes grew too thick, and, besides, my guides would not assure me that the Turks, if they happened to meet us, would look on my curiosity without suspicion. The greatest part of the tombs are enormous pieces of marble, like those on which I had the honour to dine with your Lordship and our numerous company of good Morlacchi, not far from the sources of the *Cettina*. But the bass-reliefs of the burying place in the wood, on the banks of the *Trebisat*, are much more curious than those of *Vrilo-Cettina*.

Of the Rivers NORIN and NARENTA, and of the Plain overflowed by them.

After having made a very fatiguing day's journey, I found myself, towards the evening, in a corner of the Venetian confines that runs between the rugged marble hills, at the foot of which the river *Norin* rises, and is left entirely to itself from its very source; hence a vast tract of land is overflowed by it, and encumbered with reeds, willows, and wild elders. A small space of ground only remains dry between the roots of the hills and the marsh, at a place called *Prud*, and that is all covered with pieces of ancient hewn stones, fragments of inscriptions, columns, and capitals, and bas-reliefs of the best age, worn and deformed by time, and the barbarism of the northern people, who begun on that side to destroy *Narona*. The inhabitants, who go often to cut reeds in the marsh, assured me, that the vestiges of that large city may still be seen under water. It must have been extended over the plain a great way, and undoubtedly above three miles in length at the foot of the hills. The ancient road is now under water, and we were obliged to ascend a very steep road, in order to pass the point of a craggy hill, on which, probably, before the Roman times, those fortifications were erected that cost *Vetinius* so much labour. Along the path are to be seen the traces of ancient inscriptions on the rock. The poor hamlet of *Vido*, now occupies the spot where temples and palaces of the conquering Romans once stood; and grand vestiges still remain of baths, aqueducts, walls and noble edifices; even the wretched cottages of the Morlack inhabitants are all built of fine ancient hewn stone. Few inscriptions are indeed now to be found above ground; a great quantity having been transported to Italy, to adorn the museums of the curious.

I copied.

I copied only two, though it is probable there are more that might be copied, and which the malicious laziness of those inhabitants prevented my seeing. Of the formidable number of Pirates, that, in the middle age, commanded this country, and who at last, after long and bloody wars, were extirpated by the Venetians, no monument now remains. Perhaps, indeed, it would have been in vain to have looked for any although the place they possessed had been defended from inundations, as those rapacious Corsairs can hardly have been encouragers of arts, but rather despisers of posterity, as they were of their forefathers.

Some geographers, and Busching in particular, say that the ancient *Narona* stood precisely on the hill where now is *Citluc*, a small fortified place belonging to the Turks; but this is without all doubt a mistake, for *Citluc* lies eight miles from the ruins of *Narona*, and if there are ancient stones employed in its buildings, they must have been transported from *Vido*. La Martiniere, and several authors of maps, mark a city by the name of *Narenta* that does not exist. The *Norin*, after a short course of six miles, runs into the river *Narenta*, called *Oronzio* by Porphyrogenitus alone, which, augmented by these waters, as well as by those that fall down from the hills *Haxabie*, enlarges itself in form of a lake, and afterwards dividing into two great branches, incloses the island of *Opus*, three miles lower down. The water of the *Narenta* is brackish about this island, and sometimes there is a mixture of sea water twelve miles up the river, and beyond the mouth of the *Norin*. The inhabitants, however, drink this water, and very probably that is one of the principal causes of the many diseases and infirmities to which they are subject. On the island of *Opus* there is a small fortified place with platforms of earth, and near it are two hamlets of
Mor-

Morlacchi which take the name of towns. The Morlacchi of one of those hamlets are of the Greek church. The men drest like the other Morlacks; but the women, when in their holiday cloaths, wear a caftan after the Turkish fashion (Pl. XIII. Fig. 11.) I ftaid fome days on the ifland of *Opus*, courteoufly entertained by the noble family of *Noncovich*, and with the hopes of being able to penetrate farther up the country to *Maf-tar*, in order to take a drawing of the ancient bridge, which gives name to that mercantile city of the Bofnian Turks, *moft flari* fignifying the old bridge. But the Narentine officer, who had folemnly promifed to efkort me, broke his word in a fhameful and infolent manner. You may well believe, my Lord, that I was heartily vexed at this difappointment, as it prevented my ferving your Lordfhip in a matter that I knew would have given you pleafure.

It fhould feem that the ancient geographers were not well acquainted with that part of Dalmatia, and thofe of our days certainly are not, as they make fo many miftakes about rivers, and the fituation and names of places. *cylax Cariandenus*, who is cenfured by Farlati as not exact in defcribing the territory of *Narenta*, feems to me to have had a more juft idea of it than all the other ancient writers, and infinitely more fo than all the moderns. He probably never intended to fay that the river *Narona* proceeded from the lake of *Imafki*, as Farlati is inclined to believe, but that it came from the overflowed plain called in our days the plain of *Narenta*. His words, tranflated literally, are as follows: “ Next to the Neftie, (inhabitants of the banks of
“ the river *Cettina*, and of *Primorie*) is the river *Narona*. The na-
“ vigation on it is not narrow, as the gallies and other veffels
“ fail up as far as the Emporium, which is fituated within land,
“ eighty



A Narentine Young Woman.

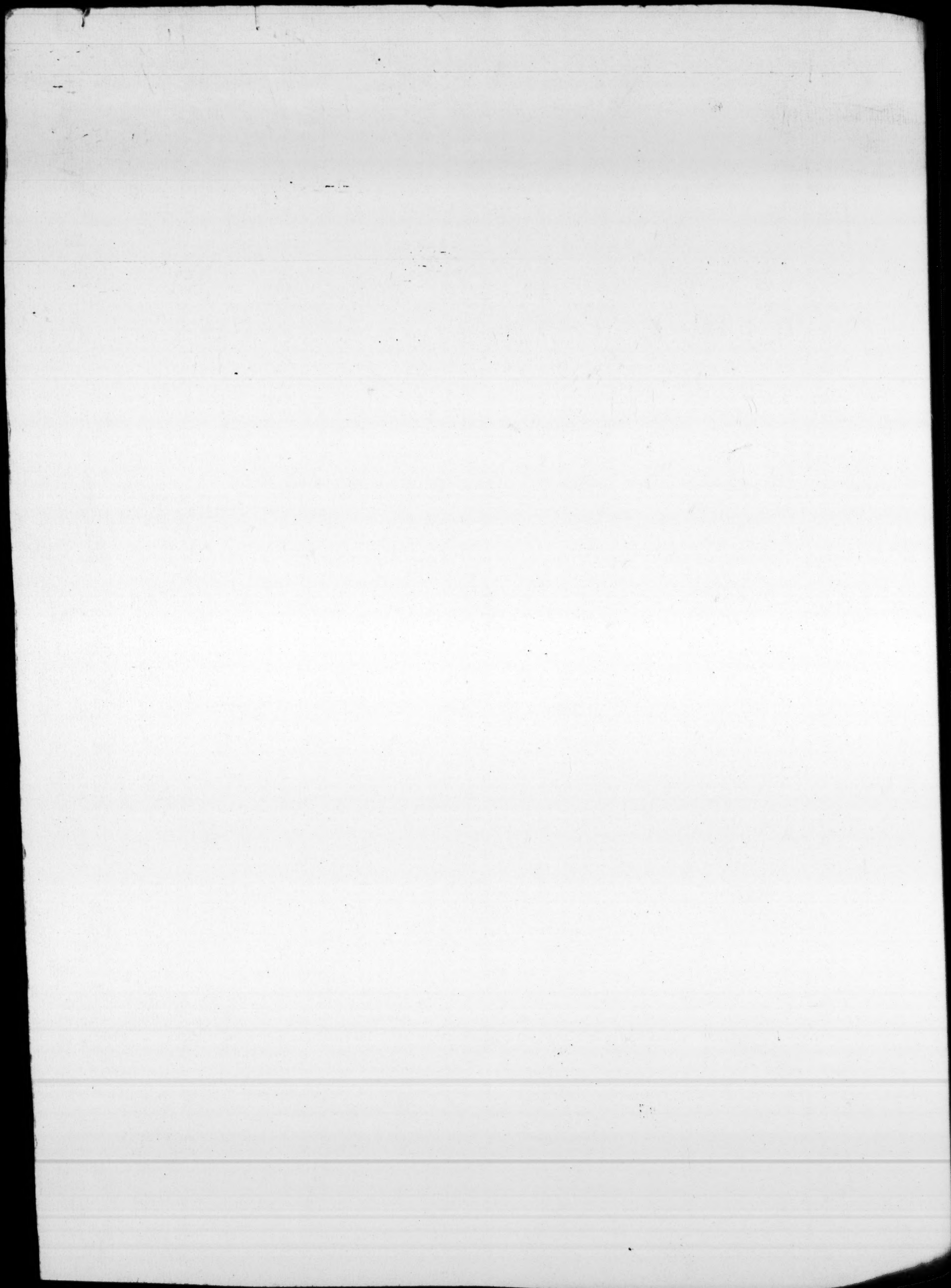
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A Lady of Macarjka.

Jac. Leonardy sc.





“ eighty stadii distant from the sea. There, the *Marii*, a race
 “ of Illyrian people, inhabit. Beyond this emporium there is a
 “ vast lake that reaches to the confines of the Autariati, an Illy-
 “ ric nation also, and in that lake is an island of a hundred and
 “ twenty stadii, of which the fields are excellent for cultivati-
 “ on. From this lake the river *Narona* issues.”* If one were
 to say that the text of *Cariandenus* is corrupted, where we read
 τὸ εἶσω τῆς ἐμπορίου, and that a reading of contrary sense ought to
 be substituted, then the whole matter is adjusted. The island
 mentioned by him would be that of *Opus*; the extent of which
 agrees well enough with the hundred and twenty stadii; the lake
 would be found in the ample space occupied by the river, at the
 place where it divides itself to surround the island. The empo-
 rium *Narona* was not above eighty *stadii* distant from the sea in
 a right line; and Pliny was mistaken in placing it at a greater
 distance. But without altering the text of *cylax*, it may be
 supposed, that the lake, of which he speaks, was the plain of
Rastok,† and *Trebisat*, which very well deserves that denomina-
 tion in the season of the inundation, and which from there lies
 detached a large tract of cultivable land, that forms at present the
 richest part of the territory of *Gliubuski*. In this case, the author must
 have taken the *Trebisat* for the *Narona*, as the former comes down
 from those plains, and falls into the *Narenta*. Perhaps also the
 island, of which this ancient writer mentions the fertility, is that
 tract of Narentine land which lies between the *Norin* and the
Narenta, and which might very well, in ancient times, have been
 isolated.

* Scyl. Cariand. *inter Geograph. min. Hudsoni. pag. 9.*

† One might be induced, by the greater analogy of the names, to believe that
 the Παρῶνζα of Porphyrogenitus was *Rastok*, and not *Zaostrog*; but as *Rastot-*
za, as well as *Macros*, is placed on the sea side, and said to be a place of
 fishing, it cannot reasonably be taken for *Rastok*, that lies within land.

isolated by a regular communication of the two rivers at the foot of the hill of *Citluc*, where, at present, there is marshy ground, and a canal scarcely navigable. If we chose to go further back, it would be requisite to examine the high land of *Mostarsko Blato*, that is, the marshy lake of Mostar, from which it may very justly be asserted that the river *Narenta* takes its rise.

The banks of this river were, in former times, famous among the professors of pharmacy, to whom Nicander prescribes to gather the Iris there for the theriaca. And Theophrastus, cited by Atheneus, gives the preference, over all other countries that produce this plant, to the Illyric mountains at a distance from the sea; which agrees very well with Nicander, understanding those mountains from which the *Narenta* issues.* And now I am speaking about the ancients, I think it not improper to add, that at *Mostar*, and other places of *Bosnia*, the Turks make by the infusion of honey combs in water, and by means of fermentation, a sort of hydromel called by them *scerbet*, which corresponds to that used by the ancient *Taulantii*, who inhabited the same country, and of which the whole process is particularly described by the author of a little work *περι θαυμασίων ακουσμάτων* attributed to Aristotle.† Our neighbours the Turks, who would feel the greatest remorse if they drunk a glass of wine, make

* Athen: Dipnosoph. Lib. xv. cap. viii.

† " They say that the Illyrians called *Taulantii* make wine of honey: they
 " squeeze the honey combs, after having thrown water upon them; they
 " boil that till only the half remains; then they put it in earthen vessels, being
 " already very sweet to the taste; afterwards they put it in wooden butts, and
 " keep it a long time till it acquires the taste of good wine. This liquor is both
 " sweet and wholesome. They say that the same liquor has been also made in
 " Greece, and that it cannot be distinguished from old wine. *Λέγεται περι θαυμα-*
 " *σίων ακουσμάτων.*

make no scruple of drinking this *scerbet* to excess. Nor are they more sparing in the use of *Rakia*, which is a spirit drawn from the husks, after the grapes are pressed; they have, besides, various preparations of boiled *must*, with which they indulge themselves abundantly. The *Muscelez*, and *Tussia*, are liquors of this sort, and very apt to intoxicate, but the probabilist Turks have made themselves easy on that head. The *Muscelez*, when old, requires to be dissolved in some other liquor, before it can be drunk, and resembles some of the wines of the ancients.

The large river of *Narenta* is not navigable for barks of great burden beyond the village of *Meriovich*, but small barks and boats go as far as *Pocitegl*, and no farther, as I have been told by the inhabitants. Those writers, therefore, have certainly been ill informed, who believed that vessels could go up the river as far as *Mostar*; from whence, were it practicable, the Turks would undoubtedly convey their merchandize by water, which would be much more commodious, and less expensive than the journeys they are obliged to make by land.

The most considerable article of fishing in the Narentine marshes is eels, which come up the river from the sea in great plenty. There is perhaps no other place in Dalmatia better calculated for a regular eel fishing such as that at Comacchio; and if such a prospect were properly established, and well managed, it would doubtless keep a considerable sum of money within the state that now annually goes out of it. Besides eels, there are various other species of river fish caught in the *Narenta*, and some of the most delicious kinds. Trouts are not rare, and sometimes they catch salmon. Towards the mouths of the river, and about the island

of *Opus*, the *Muggini* come in numbers at the season of depositing their spawn; and, if the people had any tolerable degree of industry, great quantities might be caught. The boats which the Narentines use on their river are exceedingly small, and light. They call them *Ciopule*, the same name that is used by the Morlacchi of the *Kerka* and *Cettina* for their canoes. The *Ciopule* or *Zopoli*, of Narenta are not made out of one trunk of a tree, but of very thin boards joined together by little ribs on the inside. There is no difference between the poop and the prow; both are acuminate, and they have no gunwale. The extreme littleness of these boats, and the very small distance from the water in which those who go in them are, frighten a beholder not used to such a sight. The men use not oars, but row their skiff with certain paddles about four feet long, which they manage sitting cross legged like the Turks.

The soil of *Narenta*, in the places that are not constantly under water, is sandy, as must be the case in all lands that are frequently inundated by a river, without any banks, and every now and then swelled by mountain torrents. To these floods the island of *Opus*, which is still subject to them, owes an additional height of ten feet between the Roman times and the present. An excavation made there in the garden of the Signori Noncovich shewed me the different stratifications that have successively covered the old earth, in which at ten feet depth, are found pieces of broken glass, and of Roman kitchen utensils. Yet the island, notwithstanding its being thus raised, is not cultivable every where, many places remaining marshy, though they might be drained, and rendered useful without much difficulty. The great abundance that the Narentine land yields of every kind of product might stimulate

stimulate the inhabitants to become industrious, if their laziness were not insuperable, which is probably a consequence of the gross air that surrounds and oppresses them. Herbage of all sorts, Indian corn, wheat, and olives in particular, succeed to a wonderful degree; and mulberry trees rise in a few years to a surprising luxuriance, and the silk worms that feed on them make very fine silk. The vines alone do not thrive well, and, indeed, it is a wonder they grow at all, as they remain every year so long under water, especially in the plain between the two rivers opposite to *Mercovich*, a village well inhabited by healthy, laborious and brave people.

Notwithstanding the fertility of the soil, and the convenience of the situation in regard to the trade with Turkey, the territory of *Narenta* is very thinly peopled, and very little frequented by sea-faring people, who dread the effects of the air, from which, perhaps, is derived the qualification of *Niretva od Boga proclata*, "Narenta cursed by God;" which is become a proverb in Dalmatia. The celebrated Dr. *Giuseppe Pujati*, who died a professor of physick in the university of Padua, published a treatise *de morbo Naroniano*, which is enough to frighten any one who had a mind to go there, especially in autumn. Yet I was actually there in the month of October, staid fifteen days, and by means of very simple precautions departed in good health, together with all my boat's crew, who had laboured very hard in coming thither. The water, that stagnates in some places, becomes pestilential to such a degree, as to kill the fish that swim in it; and Pujati assures us, that the birds that frequent marshes, of which there are many thereabouts, often fall down poisoned by the deadly exhalations. He reckons the Narentine autumnal fevers a species of plague very difficult to cure.

Every inhabitant of those parts has his little tent to defend him from the gnats, and other troublesome insects while he sleeps; and people in easy circumstances keep themselves under a gauze pavilion, even in the day time, during the hot season. The number of these tormenting little animals was so great when I was there, that I was almost desperate. An ecclesiastick shewed me a small excrescence that he had on his forehead, and assured me that it proceeded from the sting of a gnat. He is a man of rather an acute understanding; and told me, that he suspected that the fevers with which the Narentines are molested, might be occasioned by the punctures of those insects, who, after having sucked a putrid fish, or quadruped, or perhaps some poisonous herb, come to suck the blood of men. It does not, indeed, appear impossible that some infection may be communicated in this manner; and the conjecture is at least ingenious. Notwithstanding all this, the unhealthfulness of the territory of *Narenta* is not irremediable, and some parts of it are already rendered habitable by means of cultivation. If proper encouragement was given to agriculture, and to raising corn in particular, there is no doubt but this district might again become rich and pleasant, as it must have been in ancient times.

The circumjacent hills are, for the most part, of marble, of which the organization is the same as that on the islands. No fossil curiosities, nor useful discoveries are to be met with thereabouts, excepting a mine of *Pissasphaltus*, that lies at the foot of mount *Rabba*, in the district of *Slivno*, in *Xaxabie*. I did not visit that spot, nor a quarry of white marble at a place called *Comin* which was indicated to me. The mountainous region is full of caves and gulfs, about which they tell many wonderful

wonderful stories. I had a friar with me in the boat, from whom I was given to hope some useful information, but instead of that, he only told me the most foolish fables that can enter into a brain vitiated by superstition. This strange mortal swore to the cries of children in the gulfs, and to the dances of fairies in the caverns, as positively as if he had seen them a thousand times. He assured me that he had, in a particular book of his, a certain benediction, which no fever could resist. On being asked, why he did not cure all the poor people of the country, and thus make a merit to himself both with God and men? he answered ingenuously, that he must be well paid for working such miracles, and did not think it worth his while to meddle with such poor wretches. I was little edified, as you may believe, by this sincerity, and so much the more it appeared monstrous to me, because his brethren are full of humanity and charity to the poor Morlacchi. It would be tedious and useless to relate the nonsense and falsehoods told me by this fantastick friar, relative to the ancient extent of these marshes, and the monuments and inscriptions to be found in them. I trusted to his information only once, and had cause to repent of it. There is also a small printed book, which contains many silly and apocryphal stories about the territory of *Narenta*; I will not say that my friar is the author, but whether he is or not, it is a work that neither deserves to be read nor censured.

I left the country of *Narenta*, full of grateful sentiments to my courteous hosts, but, at the same time, piqued at the uncivility of some others with whom I had the ill fortune to get acquainted. Nor can I forget the vexation I felt on being disappointed of a sight of the bridge of *Mostar*. Yet still I hope,
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my Lord, to be able to serve you in that article, if ever I return again to Dalmatia, wishing to give you frequent proofs of my just and unalterable attachment to your Lordship, which the continuance of your goodness to me renders still more strong in spite of time and distance.

T O

TO THE

ABBÈ LAZZERO SPALLANZANI,

PROFESSOR OF NATURAL HISTORY IN THE UNIVERSITY OF PAVIA, FELLOW OF THE ROYAL SOCIETY OF LONDON, &c. &c.

Concerning the Islands of LISSA, PELAGOSA, LESINA, and BRAZZA in the DALMATIC SEA, and the Island of ARBE in the QUARNARO.

THOUGH I am very sensible that things begun, and left off before they are half finished, are in general not worthy to be presented to the Publick, nor to a learned man in particular; and being fully convinced, that my observations in Dalmatia, and the numerous islands in the adjacent sea, are defective and unsatisfactory, because I was prevented, by unseasonable combinations, from making them more complete, yet I venture to address a part of them to you, my learned and worthy friend, without any apprehension of your censuring me for temerity, or despising my gift, such as it is. Experience, I presume, has shewed you, how many unforeseen difficulties and delays a naturalist, who travels among the mountains, often meets with, even when escorted by the authority of government; and hence you are better able, than the sedentary *literati*, to calculate how much time I must unavoidably have lost, through changes of air, inconstancy of weather, and the ignorance, or diffidence

diffidence of uncivilized men, in a vast tract of country thinly inhabited, and far from Italian politeness. I may venture to say, that the days, thus indispensably lost, made up more than half of the ten months, which I spent in both my tours in Dalmatia; and still I should probably have made amends for this loss, if, after having surmounted a great part of the difficulties, the occasion of my returning thither had not ceased. At any rate, as no body hitherto has given any minute account of that large country, I flatter myself, that the little which I have observed, will afford some pleasure to the lovers of natural history.

Of the Islands LISSA, and PELAGOSA.

The island, that in our days is called Lissa, was known by the ancients under the name of *Ισσα*, Issa. Both the Greek and Latin geographers make honourable mention of it, as a colony of the Syracusans; and almost unanimously give it the first place among the islands in the Illyric sea; though it is not one of the largest. Scimnus of Chio, treating of the Illyric islands, begins with Lissa, though it lies the farthest from the Continent; Strabo counts it with distinction among the most noted; and Agathererus places it at the head of the most noble islands; nor is there any geographer who does not name it in a distinguished manner. Among the Greek poets, Apollonius, the Rhodian, in the *Argonautica*, mentions it with the epithet of *δισκελαδος*, noisy, or ill-founding, and joins to it the *desireable Pythica*, which should not be Lefina, as some of the best geographers have supposed, but the small island of S. Andrea, which is still covered with wood in our days, whence a resinous juice is extracted by incision. We learn from Lycophron, in his *Cassandra*, that Cadmus lived for some time in Lissa, and begot a son there.

there. Almost all the Greek and Latin historians of the first order treat fully of this island, which, from the remotest times, was considerable for its maritime force, and its commerce. Of the Liburni, and their allies the Hetrusci of Adria, who, after they had settled themselves there, gave the law to all the Adriatick, there are no very distinct accounts preserved in history; and we begin to know something about the Lissani in the xciii Olympiad; that is, at the time when Dionysius, the elder, made himself master of the island, and sent a colony of Syracusans thither; which, in the course of time, became independent on the mother-country, and formidable by the extent of its dominions, and the number of its ships. The Lessani had frequent wars with the kings of Illyrium, and were allies of the Romans, by whom they were held in such esteem, that, on their account, they sent an embassy to Queen Teuta, to desire that she would cease to molest them. The bloody consequence of this legation served as a pretext for the first Illyric war, which brought on all the others, and ended in the conquest of that vast country. During these commotions, the commerce and navigation of the Lissani began to decline, and of consequence their power was reduced almost to nothing after the end of the Illyric wars. Historians mention them no more during a long series of ages; and we find only in the middle times that they belonged to the pirates of Narenta. In subsequent times, the island of Lissa became dependant on that of Lesina; and never after was in a condition to form a separate body of itself. It is only thirty miles in circumference; is mountainous, though not without cultivable plains; the temperature of the air is remarkably happy, and it wants nothing but plenty of fresh water to make it a perfectly agreeable spot.

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In ancient times it had two cities, one of which bore the name of the island, and the other was called Meo. Some miserable vestiges of the first still remain above the harbour, which is truly theatrical, and at present is overlooked by the village of Liffa; some old mosaic pavements are still to be seen, though under water, when the tide rises. The ruins of the other city are probably those at Comisa, a populous and cultivated place, that lies near the sea, on the east side of the island. There are still to be seen two coins of the Isei, one of which has the head of Pallas armed, and on the reverse an Amphora; the other has a goat on the reverse, instead of the Amphora. In digging, there are sometimes found ancient vases, resembling the Etruscan in the form and varnish; and also some Greek and Latin inscriptions. In this age, a man of great erudition flourished there, of the family of *Caramaneo*, who left many valuable papers, tending chiefly to illustrate the history of his country. This learned man brought himself into no little trouble by proving in a dissertation, that the reliques of S. Doimo, venerated at Spalatro with great zeal, were not genuine. I was only once in the island of Liffa, in company with the Bishop of Derry, an indefatigable lover of natural history; we landed, as it were, at a venture, without recommendation to any person who could give us useful intelligence. Hence we could observe but little, and were, besides, tormented by the excessive heat of the season, which, however, my Lord, would not have minded, if there had been a view of making interesting observations.

The organization of the island of Liffa, is principally of marble. There are some *Orthoceratites* in the common marble, which is found in the lower strata, and in the upper strata, are *Namismakes*. This law, however, is sometimes inverted. Among the

the species of stones that are observed along the shore of Liffa, there is a flaty marble of very thin strata, and a whitish calcareous scissile stone, not very fit for economical uses, as the *lamine* are irregular and brittle. Fossil bones are also found petrified in the same substance, which is seen in various places, in the islands of Osero, and Rogosniza. Abundance of them are met with in the vertical chinks of the strata, in the small valley of Ruda; and the inhabitants told us, that still greater plenty is found in a rock not far from that valley, called Budicovaz, as well as in other parts of the island.

Donati, in his *Saggio d'istoria naturale dell' Adriatico*, writes, that he found in the sea near Liffa, a species of serpentine marble; but does not tell us whether it was some adventitious piece, or really of a local quarry. In that part of the island which I saw, there is no appearance of Vulcanic eruptions, from whence a probability might be deduced of finding serpentines, or other kinds of marble produced by fire. We saw several pieces of lava scattered on the shore of Liffa, and being newly come from Vesuvius, we flattered ourselves with the hopes of finding some extinct Volcano on this island. The inhabitants assured us, that, at a place called Porto Manica, the sea threw out nothing else but black stones; we went thither, crossing over the island on horseback, and found all that had been told us quite false. We concluded therefore, that the vulcanic stones we had seen at Liffa were not indigenous; yet, afterwards, they wanted to persuade us, that a rock, near Porto Manica, was altogether composed of black stone, like the accidental pieces we had seen; but we found no boat to ferry us over; so we remained with the probability only that this story was a second fiction. In traversing the island, we saw nothing like fine mar-

ble; but no doubt there is compact *breccia* in the internal parts of the hills, as well as the rough and ignoble stone on the outside. The soil is reddish, and stiff like clay, saturated with iron ochre; but on the heights, the ground is sandy and gravelly.

The most celebrated produce of this island in ancient times, was wine. Atheneus makes honourable mention of it, on the faith of Agatharchis, who preferred the wine of Liffa to all others. "In Liffa, an island in the Adriatick, says Agatharchis, there grows a wine, which, compared with any other, exceeds it in goodness." In our days, the wine of Liffa is of a very different quality; either because they have not the art to make it, or because the ancient species of grapes are lost thro' time. The soil, as well as the situation are both well calculated for any produce; vines, olives, mulberry trees, almonds and figs, grow there in perfection. The quantity of sweet herbs on the hills of Liffa, renders the honey of an excellent flavour, but the bees do not make much, which is probably owing to the scarcity of fresh water. The flesh of the lambs and kids, and the milk and cheese are of excellent quality; but the wool is bad, owing to the little care they take of their flocks. The island produces but little corn, not enough to maintain the small number of inhabitants.

The most important article of trade in Liffa, proceeds from the fishing. One boat alone, with a drag net, catches sometimes in a few hours of a dark night, sixty, a hundred, to a hundred and fifty thousand sardels. But in these cases, the too great abundance becomes an object of mortification. Through one of those little political reasons, which often carry along with them consequences of considerable prejudice, the island of Liffa, tho' in

in a situation the most convenient for carrying on a very advantageous fishing, has no magazine of salt. The fishermen, therefore, when they happen to catch a great quantity, are under the necessity of sailing or rowing thirty or forty miles to find salt in the magazines of Lefina to preserve them. They undertake this voyage, if the wind and weather are tolerably favourable; but it frequently happens, that despairing of being able to go and return with the necessary expedition, they throw into the sea fifty, and sometimes a hundred thousand fish, to prevent their being poisoned with the stench. Every thousand sardels is worth about a chequin; and mackrel is of more value, as being a larger fish. It would certainly be an act of true national œconomy to permit a magazine of salt to be kept on the island of Liffa, that the poor inhabitants might not so often lose the fruits of their labours. The fishing of the Liffans is not confined to the dark nights of the summer months only, for the mild climate of that island permits the fishermen to exercise it even in winter; and the plenty of fishes that come to shelter themselves in that season, among the contiguous rocks, afford sufficient recompence for the fatigues inseparable from that art. All the species of fishes round about Liffa, are larger than in places nearer the continent; and the *orate* and *dentici* caught there in winter are usually preserved in gelly, and form an article of trade. Among the curious fishes found in those waters, the *Paklara* is the most remarkable; I did not see it, but the description given me by the fishermen, agrees with the *Echeneis* of *Artedi*, and *Govan*, though, in my opinion, not with the *Echeneis* or *Remora* of the ancients. *

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* *Artedi*, *Syn.* p. 28. *Govan*, *hist. Pisc. Gen.* XXXVII.

The Liffans, by their situation lying out of the way of others, and consequently not in danger of damaging the nets of their neighbours, ought to be at liberty to use whatever sort of nets suited them best; yet they are not at full liberty even in that article. This is the principal reason that they frequently leave their own waters, and go to fish about the small island of Pelagosa, which is sixty miles distant from Liffa, and about the same distance from the promontory of S. Angelo in Apulia. The fish they catch there, is not sent to market at Venice, where they pretend that they meet not with due encouragement; but are all sold in the kingdom of Naples, of which the coast that looks to the Adriatick is but ill provided with fishermen. It were to be wished, that in places where great plenty of fish is caught, such as the island of Liffa, some proper regulations were introduced relative to the fishing in general, and to the salting of the fish in particular; and the model might be borrowed from the French, accommodating it to our circumstances.

The island Pelagosa, together with several rocks that appear above water near it, are the remains of an ancient Volcano. I will not assure you that it was thrown up out of the sea like several other islands in the Archipelago, though there is some ground to suspect this to have been the case; because we find no precise mention of it in the most ancient geographers. It should seem that it ought not to be confused with the Diomedee, from which it is thirty miles distant; yet it is not impossible that they have reckoned it among them. The lava which forms the substance of this island, is perfectly like the ordinary lava of Vesuvius, as far as I could discover in passing near it. If a naturalist should land there, and visit on purpose the highest parts of the island, perhaps we might then know whether it has been thrown
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up by a submarine Volcano, as the island near Santerini was in our age; or if we ought to believe it the top of some ancient Volcanic mountain, of which the roots and sides have been covered by the waters, which divided Africa from Spain, forming the Strait of Gibraltar; an invasion that no one can doubt of who has examined the bottoms and shores of our sea. The Liffan fishermen say, that Pelagosa is subject to frequent and violent earthquakes; and the aspect of the island proves, at first sight, that it has suffered many revolutions; for it is rugged, ruinous, and subverted. I should have been desirous of visiting the Diomedean islands also, that are called *Tremiti* by our geographers; a name, perhaps, derived from the frequency of earthquakes, as, according to my conjecture, they are of volcanic character: but I begin to be discouraged in these pursuits. I will confess to you, my good Friend, that after the discoveries of ancient volcanos by Mr. Banks, and his learned companions, in the islands of Scotland, Iceland, and the new discovered countries; after the observations of the acute Bishop of Derry, in Ireland, in Auvergne and Velay; and the orctological journies among the mountains of Switzerland, France, and Germany, lately made by the celebrated naturalist, John Strange, Esquire, all our things seem to me but microscope objects. The only advantage that we can draw from their littleness, and which hinders my being entirely disgusted with them, is this, that they can be more diligently examined than the greater objects. Nature is always equally ingenious and grand; nor, to the eyes of an observer, ought the small basaltine crystallizations of common lava, or the little crystals of the Euganean hills, to prove less than the amazing prismatic columns of Staffa, or the crystalline grottos of Switzerland. It requires, however, some pains, to keep this truth always before one's eyes, and more especially

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on seeing the descriptions, or drawings of those magnificent works of nature.

Of the Island of LESINA.

The name of this island when subject to the Liburni, is not recorded, as far as I know, by either the ancient geographers or historians. Scylax calls it *παρος*, and says no more about it. Scimnus (if he is as ancient as some of his commentators pretend) is the first who mentions that it was a colony of the Parii; * in which he agrees with Strabo, who adds, that it was by those new-comers, first named *παρος*, Paros. Tolommeus gives the name of *φαρία*, Pharia, both to the island, and to its capital; and the geographers of the lower times, almost all agree in giving it this name, from which that given it by the Slavi differs very little; they calling it *Hvar* in their language, which, according to the primitive pronunciation, substitutes the letters HV for the letter F, and sometimes the letter P for F. At present its name is Lefina, *i. e.* a shoe-maker's awl, from its figure resembling that instrument. The Parii, who, according to Diodorus Siculus, were sent by the oracle, to settle themselves in the Adriatick, built Pharia, and formed a small republick, of which a coin is still extant. They lived in liberty, more peaceable than glorious, till the time of Argo, by whom they were subdued, perhaps, together with many other people on the continent, and all the other islanders, excepting those of Liffa. The Roman historians say much less about the Parii than about Demetrius their countryman, who becoming powerful at the court of Agro, and Teuta, betrayed his sovereign, and delivered into the

* *παρος δὲ τῶν ἐκ ἀποδεν κειμένη*

Νῆσος, Παρίαν κτίσις ἐστίν. Σχυρμ. 425.

the hands of the Romans, several places, one of which was Faria, his native country, of which he had been made governor by Agro; and he became Lord of it, in reward of his treason. How this man abused the friendship of the Romans, we learn from Polybius, Dion and Appian. Faria bore the punishment of his crimes, and was more than once destroyed by the Romans themselves, in the war with Philip of Macedon. It is somewhat remarkable, that the fame of the Farii, both begun and ended by means of a traitor. After the death of Demetrius, we hear nothing more concerning them in the ancient prophane writers. When the empire was on its decline, this island changed masters often, and continued a long time in the hands of the Narentines; afterwards it had particular lords, the last of whom, Aliota Capenna, ceded it to the most serene republick of Venice, in MCCCCXXIV.

This island is about forty-four miles long, and its greatest breadth is eight. The chief town is also called Lefina, and is situated towards the western extremity of the island, in a place not ill chosen, though not comparable, in any respect, to the spot on which the ancient Farii had built their city. It is tolerably well inhabited, and there resides in it a proveditor, or governor, who is a noble Venetian, and a bishop; the castle which commands it is built on the top of a marble hill, but both that, and the other military works are ill kept. The harbour, though well covered, and spacious, is little frequented at present, and the inhabitants are poor. The Lefignani are civil to strangers, tho' they are said to live in no good harmony among themselves.

During the short time that I staid at Lefina, I collected a variety of stones. The most beautiful is a marble of a very fine

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saline grain, flesh coloured, and lifted; this is not found in large strata, but in groups, like the stalactitical marbles, which are also common there. Very large strata are seen of a species of *lumachella*, an object more curious to the eyes of a naturalist, than valuable to the stone cutter; its ground is of a sullied white colour, and its substance rigid; the fragments of marine bodies disposed horizontally in it, are changed into a yellowish spar. That species of marble stone of a dark red colour, which at Venice goes by the name of *Rosso da-Cattaro* (because a quantity of it is brought from the neighbourhood of the city of Cattaro) is very common in Lefina; and there is also plenty of corallated *breccia*, in the spots of which a reddish and violet colour predominate; the stones of which this last species is composed, are rounded, and preserve the characters of a long fluitation. This *breccia* ordinarily occupies the summit of the mountains: and thus renders more evident the ancient adhesion of the islands with the neighbouring continent, on whose heights the same kind of substance may be observed. You are convinced as well as I am, that, before rounded gravel could be formed, it was necessary that high mountains pre-existed, from which the torrents might separate them, and carry them away; and seeing in the rounded stones of the *breccia*, that are found on the mountains of the island, marine bodies petrified, it becomes indispensable to place the seat of an ancient sea upon those mountains now destroyed, from whence the gravel descended. It is true, that this business of fabrication and destruction requires some length of time; but we cannot help that. But how the immense beds of gravel brought down by rivers and torrents, or transported and mixed by the marine waters, have been abandoned by the sea, and invaded by new rivers and torrents, which transformed the continued plains into mountains, and hills cut and subdivided by valleys:

leys: how the rivers and torrents were deprived of water, by the destruction of the more ancient mountains, from whence the gravel had been carried down: and how, in the great chasms and valleys, a new sea has been introduced, I really cannot tell; though these last events must have happened very near our age, in comparison of the first. It would be truly a whimsical enterprise to set one's self purposely to explain how, and when all the revolutions undergone by the surface alone of our globe have come to pass. The number of them that could be proved by the observations of diligent and unprejudiced naturalists would alarm a thousand Browalls, who perhaps would not come to terms, and content themselves to let all those revolutions happen rapidly one after another in a short round of ages; though a lover of peace would hardly venture to object against such an expedient.

I collected on the shore of Lefina, yellow, green, and red flints, all penetrated by a pyritical denromorphous fluor. In the small rock of Borovaz there are heaps of fossil bones.

The town of Lefina gave birth to several learned men in the XV century, whose names are recorded by *Vincenzo Pribevio* in his oration recited there in the year MDXXV *de origine et successibus Sclavorum*. Two of them distinguished themselves in poetry: (viz) *Annibale Lucio*, and *Pietro Ettoreo*; of the first of whom some poetical pieces are printed, as, perhaps, some works of the last also are, and many remain in manuscript, among which there is a translation of Ovid's *Cure of love* in Illyric verse, and various eclogues.

The island of Lefina, though stoney, and barren in the highest parts of it, contains tracts of very good land, fit to bear, not only fruit trees, but likewise corn. Hence this island is better peopled than any other in the Illyric sea, and some of its villages deserve the name of large boroughs, and exceed in number of inhabitants, many small cities. Among these the largest is that which arose out of the ruins of the ancient Faria, and is still called the old city. It lies on the sea side, with very pleasant fields towards the hills, and a commodious harbour before it. In this place alone the sea yields to the prolongation of the land; and the manifest cause is the declivity of the fields behind the village, which are extended, in an easy ascent, along the side of the mountain, and flanked by very high land towards the upper extremity. The muddy waters, that descend after the rains, deposite the earth, with which they were saturated on the shore, and by little and little fill it up. It also appeared to me, by the few ancient ruins remaining above ground, that Faria lay almost two miles further back than the old city actually does, and the accounts given me by the inhabitants confirmed me in this opinion. I saw only two ancient pieces in this place, the most valuable of which is a bas-relief sufficiently well preserved in Greek marble, which represents a bark under sail, with the rudder on the right side of the poop, and the steersman. The other is a sepulchral bas-relief, ill cut. I was obliged to go to find the first on the top of the steeple, in which building it is probable that many monuments of the Farii have perished. I found no traces of Greek inscriptions, and only a single sepulchral monument in Latin, a mile without the village, which I copied, and repented of going so far to find it. The inhabitants of this island are tall of stature, courageous, and lively: they apply themselves much to navigation, and the people
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in general are employed in fishing, and in building barks and boats.

From the old city, I went on horseback to the small bay of Zucova, where there is a harbour tolerably good for fishing boats. Along the shore of that bay, there is a whitish slaty marble, with the slabs of which the islanders of Dalmatia generally use to cover their houses. It happens often, that, in splitting the thickest *laminæ* of this species of stone, the impressions of marine plants, and of fishes, not known in our seas, are discovered; but the chance of finding the impressions, and the bones of the fishes petrified is very rare, tho' that of the plants is very common; but there are not many different species of them. Impressions of Coralline plants are rare, and the only one that I met with well expressed, is gone to England to have a place in a very rich collection, together with the few fishes that I could find on that spot. I also found there muscles changed into stone, but ill preserved, and disfigured. The sea, not obliged by local causes to recede, encroaches upon the coast of Zukova, and submerges again, by little and little. The curve strata of slaty marble, in which the skeletons of the fishes lie buried, will remain in the course of time, covered with gravel and sand, mixed with the testaceous bodies of the Adriatick; and will afford matter of study to the naturalists of future ages; if any of them happen to go there to examine that spot, become subaqueous, or again left dry. A naturalist cannot indeed be greatly blamed, who having drawn up a petrification from some stoney stratum in the bottom of the sea, believes it formed by the waters under which it lay; and yet in fact the proof is evident, that it is not generally so: and the large pieces of marble containing *lenticulares* and

and *orthoceratites*, that are fished up by the instrument used by the coral fishers, out of the depths of our Adriatick, give a clear demonstration of it. The skeletons of fishes at Zukova, which, in no very great space of time will be again under water, together with the strata in which they lie, certainly do not belong to our sea, posterior, by much, to the time of their deposition. I have none of them by me at present, to describe their distinguishable parts, and determine to what genus they belong, and which of the known species they resemble most.

A small hamlet at a distance from the sea, called Verbagn, has another mass of slatey marble, in which fishes are also found: but in order to have any, it would be necessary to wait whole weeks, and to employ at one's own expence the stone diggers, who are not fond of these curiosities. Verbagn is two miles distant from Varbosea, a well peopled village two ages ago, as may be seen by many good houses now in ruins. The inhabitants of this place, and generally all those on the sea coast, are civil and hospitable. The chief occupation of the women is the culture of the land: and the men are mostly employed in the fishing, when they have means and health to exercise it. From Varbosea to Gelsa by land, is a journey of four miles. I found on the road, a fossil curiosity, that seemed to merit all my attention. A good part of the way, and almost the whole of an intermediate hill is of a fluviatick concretion, left there by some ancient river now lost, or deviated some other way, not discoverable at present. This concretion which must have been formed long after the marble strata, of which the organization of the island is composed, is certainly not a little anterior to the irruption of the new sea in our lands, which, however, is not an affair of recent date; because the islands of Dalmatia must have been,

been, from a state of ancient plains, reduced into mountains intersected by vallies, when the sea came to visit them. The interior part of Dalmatia, beheld from the top of the mountain Biocova, compared to the islands, which from that height are seen all united, presents a view very like them, when the surrounding sea is removed by fancy. I emptied, in imagination, into the valleys of Bassina, flanked here by hills, and there by mountains, all the sea that surrounds Lefina, Liffia, Brazza, and the numerous other Illyric islands, and left them dry. Bassina then changed situation, and became a continuation of Primorie; and the Illyric Archipelago appeared almost without any distinguishable alteration transported beyond mount Adrio. The small lake of Jezero which full of little islands and woody rocks lies on the continent at the foot of Biocova, which separates it from the sea, represents in the circuit of a few miles, what all that transalpine country would be if it were inundated, and what the islands were before the sea surrounded them.

Gelfa is a large and populous village, well situated, with a good harbour, and plentifully supplied with fresh water. It stands at the foot of marble hills, which, with an easy descent, lose themselves in the sea. There one sees the finest *breccia*, scattered in the coarse pavement of the streets, and employed in the most ignoble fabricks. The *breccia* of Gelfa is generally composed of angular pieces of white marble, susceptible of a fine polish, and united together by a cement of red petrified earth; the violet coloured *breccia* is also not rare, it is stained very irregularly, and is worthy to adorn any noble edifice. Monsignor Blascovich, bishop of Macarska, caused all the columns of his new cathedral, and all the steps of the altars to be brought from this place. The only defect that can be seen in them, proceeds

proceeds from the bad choice made by the stonecutters, led perhaps by a spirit of mistaken œconomy, to take the first that came to their hands, as being most convenient for embarkation. When the marble of a new quarry is to be used, the exterior stratum ought not to be depended upon, it being usually damaged by the injuries of the air, and of the salt water if on the sea shore, which the inner strata are not exposed to. The substance of the marble of Gelsa, employed at Macarska, is beautiful, and the polish as high as that of the finest *breccia* at Rome, which probably was brought thither from Dalmatia; but the cement that forms the aggregation of the pieces, has suffered some degree of prejudice by being exposed for a long series of ages to the rain, the sea, the heat of the sun, and the action of the air; and hence, the smoothness of the work has not all the uniformity and perfection that might be expected. It would be requisite to take the *breccia* of Gelsa at some hundred paces distant from the sea, and from a quarry moderately deep; the success could not fail amply to compensate the small additional expence. And would it not be better for the city of Venice, where the quantity of marble annually used is considerable, to have it from the islands of Dalmatia, at a trifling charge, rather than from the *Terraferma*, or from other states, at an exorbitant price. Besides the *breccia*, I saw at Gelsa, adventitious pieces of *laminella*, white, and black, composed of bituminous marine earth hardened, and of small *Orthoceratites*, transformed, as usual, into a calcareous spar of saline grain.

Though there are many houses at Gelsa, and a good number of persons drest in our fashion, have habitations there, yet I could not find provisions for myself, and boat's crew, for money; and I was obliged to pass the night on board of my boat.

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The village of S. Georgio, situated on the eastern point of the island, is in itself not remarkable. The only motive that can induce a traveller to go there, is to see a large quantity of Roman urns, which at a small distance from the shore lie in heaps, or scattered in the bottom of the sea, where they have remained fourteen ages at least. In some of them the makers name may be read, when the crust, with which they are covered, of *Escaræ* and other polipous substances, is taken away. They appear to be of the good times.

As the island of Lefina is the most populous of any in the Adriatick, so it is the richest for variety of products, and all of excellent quality. It produces wine, oil, figs, almonds, saffron, and honey in no small quantity; the flat ground produces also corn, but not in any measure proportioned to the number of inhabitants. The mild climate agrees very well with the aloes, of which the threads might be usefully employed in fishing tackle, after the example of the Americans and the French. The palm trees, orange trees, and carobs thrive very well; and it would be worth the while to encourage the multiplication of mulberry trees there, as well as in the other islands, and the littoral parts of Dalmatia, where the soil is proper for them. Firewood is also an object of trade to the Lefignani, but it goes on decreasing from year to year, through the little economy used in cutting the woods, and by reducing the ground into tillage. Wool, sheep, and cheese bring a small sum of money annually into the island; but the most considerable article exported from thence, is salt fish, which deserves to be protected, and relieved from publick imposts, as well as private oppressions; that the number of fishermen may increase, and that they may find their account in bringing their fish to mar-

ket at Venice, which, since the beginning of this age, has paid a heavy tribute to the northern fishers. If only the half of the money that the nation annually spends in unwholesome pitchers were diffused in Dalmatia, the whole province would feel a considerable benefit, and the publick revenue would be augmented. The fishing at Lefina was in former times of greater consequence than it is at present; and then it was perhaps true, that all Italy, and a good part of the Levant, were provided with sardels from thence, and the dependant island of Lissa, as Mr. Busching says. *Rakia* is also a commodity of some importance at Lefina, as well as in the other Illyric islands, and on the sea coast of Dalmatia; but the capital reaps little advantage from this also; because the economical regulations, concerning the products of that vast and fertile province, are all equally ill directed.

Of the Island of BRAZZA.

This island never was, as far as we can conjecture, inhabited by a people of any fame: Scilax only just mentions it, by the name of Κρατία, Cratia, Polybius by that of Βρεκτία, Brectia: Licophron calls it Κραθις, Crathi; Pliny, Atoninus, and Peutinger Brattia, Porphyrogenitus Βαρτζω, Barzo; and styles it and Lefina as καλλίσας, ἢ ευφορωτάτας, very beautiful and fertile. It is thirty-two miles in length, of unequal breadth, but never exceeds nine miles. The inhabitants assert, that, in old times, there was a city in the place, now called Scrip; but it seems strange, that all the Greek and Latin geographers have passed that city over in silence, supposing it actually to have existed. Busching has given this island a town for its capital, by the name of Brazza, and has also placed a Bishop to reside there, though there is actually no town of that name, nor a Bishop's residence
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on the island, and the place that ought to be reckoned the capital is Neresi, where the governor, who has the title of Count, usually resides, as being the most convenient situation for the administration of justice to the islanders. The celebrated geographer above mentioned, has thrown together a good number of little blunders in the few words he says concerning this island. They are, "Brazza, *Bractia*, takes its name from the town "Brazza, where a Bishop resides. The Venetian Count, or "governour has his habitation at S. Pietro, a place situated on "the west side of the island near the port of Milna." To the actual mistakes comprised in the first words, it must be added, that S. Pietro, is not on the west of the island, nor near the port of Milna. *

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Brazza

* Mr. Busching must either have been ill served by his correspondents, or have copied from bad originals, when he wrote of Dalmatia. I had not that volume of his work under my eye till late, and therefore could not point out the principal inaccuracies in their proper place. I protest that I am not actuated by the least degree of malice against that very deserving man; every writer is but too much subject to want of exactness. But I conclude that I am doing a real service, not only to Mr. Busching, but to his readers, by advertising them of some notable mistakes, which it would be well, if somebody took the trouble of correcting province by province. It is not true that the Dalmatians (No. LI. p. 75. ed. of Florence) *are Greeks by nation and religion*; a part of them indeed follow the Greek rite, but not the largest part. Nona is still a heap of ruins, and so far from being a *good fortress* (page 76) that it can scarcely be called a walled town. Vrana (p. 77) far from being *one of the most delicious places in Dalmatia*, is a frightful heap of rubbish, neither inhabited, nor habitable. Knin (p. 78) is watered by the river Butimshiza, not by *the Bolisniza*, and is not *the seat of a Bishop*. Dernies (p. 79) is not *a city of little consequence*, but a poor village; and the cathedral of Sebenico is not *in the castle*. Nor is Clissa *a city*, (p. 80) neither does the road that leads into Turkey, pass near that fort *through a valley*, but on the side of a mountain. Salona was not situated in *a beautiful plain*, but at the foot,
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Brazza is altogether mountainous and rocky, and, in the highest parts of it, there are large tracts of land quite stoney, scarcely fit to bear juniper and other plants that grow in barren places. It costs great fatigue to reduce the ground to tillage, and yet those inhabitants go on from year to year, increasing their cultivated land, and consequently their product of wine, diminishing their woods and flocks. The stoney nature of the soil, and the scarcity of springs of fresh water subject the island to fatal droughts.

The principal place of Brazza, is Neresi, so called, by Greek derivation, from the reservoirs of water near it. This is the place of residence of the governor, and where the publick meetings are held; the gentry of Brazza repair thither at set times, from the maritime places, where they have their habitations. The situation of Neresi is not pleasant, though the only good lands in the island lie immediately before it. The road to it, from the sea shore, is exceedingly rough and wild; the air continues rigid after the spring season; and the winter, they say, is intensely

and on the side of a hill; nor *did the brook Salona pass through it*, but a river of that name passed by the outer side of it. I forbear to mention many other smaller blunders, corruption of names, and errors in position, which would make a long catalogue. But I am surpris'd that not only in treating of Dalmatia, but also of some of the most considerable and best known cities in Italy, he should write ridiculous extravagancies. One, among many others, is concerning Venice (p. 29.) *secured against famine by the fishes, which the inhabitants may catch standing at the doors of their houses*; it is also a shame not to know the value of our ducat, and and to fix it at £. 7½ as it was in old times. Concerning Padua, Vicenza, Verona and other cities of Lombardy, Mr. Busching speaks with the same inadvortency, placing, for example, a chain of mountains *between Vicenza and Padua*, where the *sette Comuni* inhabit, *who cultivate the vines*. How can we believe him when he talks of the Terra Australis?

intensely cold. The country enjoys some beautiful points of view, but the pleasure they can give costs too dear. Neresi has been more considerable in the times of incursions and piracies; and hence it still preserves a kind of primacy, because the principal islanders retired thither; but now, since the places near the sea may be safely inhabited, it has lost much of its population, and deserted houses are falling into ruins on all sides. Bol is no inconsiderable town, and S. Giovanni, S. Pietro, and Pucischie are large villages full of industrious and trading people. The hills above Neresi, which form as it were the back bone of the island, are quite sterile, and produce nothing but some juniper, and wild pine, of the splinters of which they make a little trade for the use of the nocturnal fishing. The island of Brazza affords great variety of stones. The most ordinary kinds are, whitish common marble, *breccia*, and marble containing *orthoceratites* and *lenticulares*. Of the first species, the ancient quarries are to be seen from whence the materials were taken to build the palace of Dioclesian. In the same place, ascending a little towards the hills, there is a marble of a black substance, full of marine bodies, changed into white saline spar. There is also a vein of white stone, soft, when newly extracted from its native bed, but, after being exposed to the air, it becomes hard, and succeeds much better than the too soft and farinaceous stones of Costaggia, and S. Gottardo in the Vicentine. The same kind of stone is found at S. Giovanni, and at Pucischie; that is, at the two opposite extremities of the island. In other times there was a mine of *Pissasphaltus*, if we may believe Tomeo Marnavich; but I could not find any vestige of it, only my learned friend Guilo Bajamonti shewed me at Spalatro, a piece of calcareous gray stone, emitting an offensive smell, full of distinguishable marine bodies, and different from all the other bituminous stones that

that I had seen in Dalmatia, and told me that it was known by the stone cutters, under the name of *Pietra Pegolotta*, i. e. pitchy stone; it was found at Pucischie. In the neighbourhood of the village of S. Pietro are found, within the hard stone, besides the *Nummali*, many *Echnites*, and *Pectinites*; and above the harbour of Postire, there is a species of gray, compact whetstone without marine bodies, which breaks in *laminae*, like flints. At S. Giovanni there are *fungites* and *conchæ diphia*, among the ceratamorphous petrifications.

The product, for which this island was known among the ancients, continues still in its primitive perfection; Pliny distinguishes it, above the others, for the excellence of its kids.* And in fact, not only the kids, but also the lambs acquire a particular exquisiteness of taste, by the pasture of that island, and the milk with which they are nourished far exceeds that of the neighbouring countries. Hence the cheese of Brazza is highly esteemed in Dalmatia, and wherever it is known. The sheep, however, have been almost universally substituted in place of the goats, by those islanders, as being less hurtful to the woods, of which the goats are great destroyers. Generally speaking, the wool of Brazza is not good: but the flocks of Count Giuseppe Evelio must be excepted, he having introduced a race of foreign sheep upon his lands at Pucischie, and causing them to be kept with greater attention than is usual in those parts. The same gentleman has not only improved his own lands, by reforming the abuses in the management of cattle, and in agriculture, but has also roused some of his neighbours to follow his laudable example. The bee-hives, vines, and olive plantations, which belong

* *Capris laudata Brattia*. Plin. L. III. c. xxvi.

belong to him, are so many proofs of his useful application to economical studies, which he also knows how to mix with agreeable ones. The bee-hives of the island are made of marble slabs well luted, or cemented in the joinings; the upper slab is moveable, and a weight of stones is laid on it, to keep it from being moved by the wind; the aperture before, by which the bees pass, is very small. There are great numbers of bee-hives in the same place, and Count Evelio, possesses some hundreds. He uses all possible diligence, that the bees may neither want water nor food, the two principal calamities to which the hives of the island are exposed.

Notwithstanding the stoney soil of Brazza it produces a great quantity of wine, which is generally held as the best in Dalmatia; this article, fire wood, and sheep, form the principal revenue of the Brazzani. The island also produces oil, figs, almonds, silk, saffron, and a little corn. The *Lentiscus* grows there in great plenty, and the poor peasants make oil of the berries, when there is scarcity of olives. I got a specimen of that oil from a gentleman of the country, and made trial of it in dressing victuals, but could not accustom myself to its strong smell. The necessaries of life may be purchased in the island at a very low price, and some of the delicacies may be had for little money; ordinarily three *beccafichi* are sold for a Venetian sol, and all the rest in proportion. The fishing makes also no inconsiderable article, though far inferiour to that of Lefina and Lissa; nor are the waters about Brazza much frequented by particular kinds of fish.

The neighbouring islands of Solta, the *Ολυθα* of Scilax, and called *Solentum* in the Peutingerian table, may be considered as a
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continuation of Brazza, though it does not depend on the same governour, being subject to Spalatro, both in civil and ecclesiastical cases. It is divided from Brazza only by a small rock inhabited by rabbits. Solta is about twenty-four miles round; but contains few inhabitants, being almost quite covered with woods, in which many vipers are propagated, as well as in those of Brazza. Its honey is remarkably good, and in no respect inferior to that of Spain or Sicily.

Of the Island of ARBE in the Gulf of QUARNARO.

It is a terrible geographical leap from the island of Brazza to that of Arbe, at least a hundred and twenty miles distant. But what can I say? travellers by sea sometimes make such leaps. I have already wrote what little I was able to observe concerning the lesser islands in the sea of Sebenico, and Zara; and of Cherso, and Osero I have said more, perhaps, than discretion required; I only touched at the other islands of the Quarnaro in passing; and Arbe is the only one of which I can say something not altogether useless.

This island was little known by the ancient geographers; yet it is named by Pliny, Peutinger, and Porphyrogenitus; in Ptolemy, through some mistake of the transcribers, whereby the text has been altered, the island is called Σκαρδύνα, Scarduna; and two cities are attributed to it, Arba, and Coſento. The people of Arbe, having ground to believe that there actually were two cities on their island, adhere to the corrupted text of this geographer, by which their noble island is confounded with the uncultivated and desert island of Scarda, contiguous to the island of Pago. In the Roman times, it is probable, that there were no other cities

cities in Arbe, but that which bears the name of the island, in the neighbourhood of which ancient monuments are frequently dug up. I visited the pretended ruins of Colento, but could discover nothing else but the remains of a place of refuge, built in barbarous times, thro' the fear and weakness of the inhabitants. Nor is it possible that reasonable men would have established a place of constant habitation in such a spot; for a more dismal sterile, cold, and windy situation, even in the heat of summer, could not be found. It is, moreover, evident, by the construction of the walls, that the work was done in great haste; and the vestiges of the gates discover the meanest architecture; there is not one hewn stone in the ancient taste, no fragment of inscriptions, nor a piece of fine marble. The plans of the houses or cottages contained within the walls, do not seem to have been designed for the habitations of families, they are so narrow, and inconvenient. If I was an Arbegian, I would look out for the vestiges of some other city that might do more honour to the founders of it.

The city of Arbe, though the capital of a small island, not above thirty miles round, wholly uncultivated, and uninhabitable in the highest part that faces the channel of Morlacca, has always maintained itself with decorum. That it was inhabited by civilized people in the Roman times, is evident, by the inscriptions that have been frequently discovered there, some of which are now in the collection of the noble Venetian *Jacopo Nani*, and others still remain at Arbe. In the lower times it suffered all the calamities to which the neighbouring countries were subjected, but it always recovered itself with honour even after dissolution.

The archives of the community of Arbe contain some ancient papers that are truly valuable, and they are kept with great jealousy; by them it appears, that, in the eleventh century, gold and silk were not rare among the inhabitants. Arbe was subject to the kings of Hungary, afterwards it became dependant on Venetian feudatories, and, at last, was taken under the immediate dominion of the most serene republick, by which a governor is appointed who has the title of count and captain; that dignity was held, when I was there, with great honour, rectitude, and prudence, by Signor Tommaso Barozzi, who was equally beloved and respected by the inhabitants. The number of people on the island does not much exceed three thousand souls, distributed in a few parishes, which might be officiated by a small number of priests. Yet, through a monstrous inconsistency that falls very heavy on the poor inhabitants, they have to maintain no less than three convents of friars, and as many of nuns, besides the considerable charge of near sixty priests, who have a very scanty provision. This numerous clergy is governed by *Monsignore Giannantonio Dall' Ostia*, a very learned and worthy prelate, adorned with all the good qualities, and social virtues that constitute a true and respectable philosopher.

The climate of Arbe is none of the happiest; the winter season is horrid, especially when agitated by the violent northerly winds, which sometimes transform the intermediate seasons into winter, and cause the summer itself to disappear. These furious winds do great damage to the island, particularly in the winter and spring. Two years ago, about twelve thousand sheep perished in one night, of cold, in the common pastures of the mountain; where, according to the custom over all Dalmatia, they are left in the open air the whole year round. The salt fog raised
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by the dreadful commotion of the waves, which often roars, between the mountain of Arbe and the opposite alps, in the narrow channel of Morlacca, consumes all the buds of the plants and corn, if it happens to be drove upon the island by the wind; and it is followed by a cruel scarcity of every kind of product. This calamity communicates its baneful influence even to the flesh of the animals left on the pastures, that becomes ill-tasted, in consequence of the bitterness, and bad nourishment of the food. Abstracting from these irregularities, the air of Arbe is healthful, nor ought the constant summer fevers among the inhabitants to be attributed to its influence, as they are, more probably, derived from unwholesome food, and a way of life differing little from that of the Hottentots.

The appearance of the island is exceedingly pleasant, nor do I know another in Dalmatia, that, in this respect, can be compared to it. On the east it has a very high mountain, of the same substance as the Morlacca, of which it was once a part. At the foot of this mountain, the rest of the island is extended to the westward, and divided into beautiful and fruitful plains, interspersed with little hills, fit to bear the richest products. At the extremity, that looks, to the north, a delightful promontory, called Loparo, stretches into the sea; it is crowned with little hills, which almost quite enclose a fine cultivated plain. Near this promontory are the two small islands of S. Gregorio, and Goli, very useful to shepherds and fishers. The coast of Arbe, that faces the Morlacca mountains, is quite steep, and inaccessible; and the channel between them is extremely dangerous, being exposed to furious winds, and without a single port on either side. The long, and narrow island of Dolin, lying parallel to the island of Arbe, along the coast of Barbado, forms a

channel less dangerous, though by no means so secure as it is beautiful to look at. There are several harbours in the neighbourhood of the city of Arbe, by which the trade of the best part of the island is facilitated.

The city stands on a rising ground between two harbours, which form a peninsula; it contains about a thousand inhabitants, among whom are many noble families, but few of them are rich. The principal are the *De Dominis*, from which sprung the famous Archbishop of Spalatro, Marc Antonio; the Galzigna; the Nemira, of whom, in the fifteenth century, an Antonio is praised, by Pallanio Fosco, as an excellent mathematician, though he learned the science of himself, without a master; the Spalatini, who receive fresh lustre from the present Bishop of Corzola, respectable for his purity of manners, no less than for his learning; and the Zudenighi.

Among the most remarkable curiosities of the island, the Arbegiani are proud of many egregious reliques, and particularly of the head of S. Cristofano, their protector; but the lovers of sacred antiquity will find something much more singular in the three heads of Shadrach, Meshach and Abednego, which are venerated there with great devotion. Four of the principal gentlemen are keepers of the sanctuary, and to their care the precious records of the city are also committed. Among these records there is a transaction of MXVIII, by which the city of Arbe promises to the Doge of Venice, Ottone Orseolo, a tribute of some pounds *de seta serica*, of wrought silk, and in case of contravention, pounds *de auro obrizo*, of pure gold.

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In the last age there was a learned Bishop of Arbe, named Ottavio Spaderi, who would not permit the reliques of S. Cristofano to be exposed to the publick veneration, on the solemnity of the saint's day, because he doubted of their authenticity. The mob rose, and was going to throw him down from the top of the hill on which the cathedral stands; nor did the tumult cease after the day was past. The government sent an armed vessel to deliver the prelate from the danger he was in; and the Pope thought proper to give him a more tractable spouse in Italy.

The nature of the soil of Arbe is not the same in every situation; nay it would be difficult to find a country where there is so great a variety in so little space. There is a very great difference between the ground of the extremity of the mountain, above the channel of Barbado, and the sides of it, on the one part towards the island, and on the other facing the ridge of Morlacca. Nor is the top of the mountain itself always of the same structure, for in some parts it is extended in a fine level plain, partly woody, and partly cultivable; in other places it is quite rocky, and composed of bare marble. The ground at the foot of the mountain, where it stretches towards the shore, opposite to Jablanaz, is nothing but marble; and, in the district of Barbado, it is gravelly, and a good soil for vines. The small stones there are angular, having been a little rounded by the waters which deposited them; and their most ancient strata go on hardening underground, by the filtration of the rain water. The wine of Barbado is of excellent quality, and in great estimation; hardly any other product is cultivated along that coast, as the vines succeed so well, notwithstanding the negligent culture. Below the pretended ruins of Colento the land bears vines, olives, mulberry, and other fruit trees, and also corn in the lowest parts. All the
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lower part of the island is composed alternatively of little hills and vallies, and of a substance, for the most part, very different from that of the mountain, and its adjacencies. As the organization of the mountain is wholly of marble, so that of the hills is generally arenaceous. The whetstone forms a large part, and frequently contains *Ostraciles*, and *Lenticulares*; the exterior stratum is commonly friable. The vallies, which, according to appearances, should be full of sand, are provided with an excellent soil, with such a mixture of very minute sand, as is requisite to keep it light. Springs of fresh water, are by nature well distributed over the island, and maintain a proper humidity when the summer is not excessively dry; so that the dark verdure of the hills covered with wood, the luxuriance of the vines, and freshness of the corn ground, form a spectacle extremely chearful and agreeable.

The island of Arbe would have every thing requisite for the subsistence of its small population, if the land was cultivated by a people less stupid and lazy. It produces, however, firewood, of which many cargoes are annually sent to Venice; corn, oil, excellent wine, brandy, and silk, since very ancient times; they feed the silk worms with the leaves of the black mulberry; it also exports hides, wool, sheep, hogs, and horses of a good breed. There is also abundance of good salt made on the island; and the fishing of tonny, mackrel, lanzardi, and sardels, notwithstanding it is managed in a slovenly and awkward manner, makes no inconsiderable article of trade to the Arbegiani, who, like all their neighbours, find their account in selling this commodity to strangers, rather than to the Venetians. Yet, with all these natural products, the island is very far from being rich,

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or even in a tolerably flourishing state; because there is much land left uncultivated, and the peasants are lazy.

In making my observations concerning the fossil history of the island of Arbe, I found some things that appeared very curious. The summit of the mountain is almost plain, as I said before, and in some places is depressed like a basin. I examined with diligence the masses of marble, that are scattered there dependently from the strata, and found, without any surprise indeed, having frequently met with the same thing, that the greatest part were *breccia*; and was pleased, that my opinion about the ancient state of the mountains in those parts acquired still greater force. One thing I met with on those heights was new to me, and that was, very large tracts of minute sand, mixed with an iron ochreous earth, deposited in very regular strata, just like those that are formed by the inundations of our large rivers. I examined, with the microscope, that sand, so strangely situated on the top of a mountain, in an island, and found it to consist of quartz, and manifestly produced by the trituration of matter separated from mineral mountains.

You, my learned Friend, will certainly not censure me, if I assert positively, that the arenaceous quartz is produced by the trituration of mountain stones carried down by torrents, and pulverized by a constant friction in following the course of rivers. Our waters of Lombardy, and particularly the Po, leave no room to doubt of this fact, and reason alone might convince a man, who had never seen the banks of great rivers at a distance from their sources. The naturalists of the north, and among them the celebrated Wallerius, who certainly well deserves his fame, in order, I suppose, not to engage themselves in researches, the

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consequences of which might carry an appearance of contradiction to the opinions respected concerning the age of the world, took the expedient to allow a strange kind of pre-existence to sand, and to infer that stones were generally formed from it; which seems much the same as to say that flower existed before wheat.* It appears to me unaccountable, that the learned man, after having recited the opinion of Aristotle, and other ancients, about the origin of sands, ascribed by them to the mountains, and pulverised stones; and, after being forced to confess, that, to a part of them, no other origin could be assigned, should be frightened at the great quantity, and situation of both the subterraneous and subaqueous sands, and hence conceive an obstacle to the establishment of the ancient rational opinion. It is very true, that the aggregate stones (among which I place whetstones of the finest grain) owe their formation immediately to the concretion of sand, or minute gravel: but this does not prove, that sands do not proceed from the comminution of stones. Would not a man be reckoned a very preposterous reasoner, who, taking up a handful of the sand of the Po, should turn to the mountains from whence that great river descends, and say, "now I comprehend of what the mountains are formed!" instead of saying, "I comprehend from whence the sands are formed." The opinion of Wallerius, concerning

* *Arenæ—usum præstant æqualem ut aliæ terræ in eo quod originem præbeant lapidibus, & montibus; unde & patet arenam esse saxo priorem. Wall. Syst. Mineral, 1772. pag. 101. & pag. 107. Obs. 2. Vetat tamen ingens quantitas, nec non situs arenæ tam subterraneus, quam subaqueus, ut hoc de omni arena dici possit—Plurimos montes ab arena concretos facilius demonstrari potest quam arenam ab his destructis esse ortam.*

cerning the generation of sand, must, at least, appear singular to those, who know that it agrees exactly in substance and extension with the strata of calcareous stones, and quartz, from which it naturally ought to be derived. We are told by him, page 108, obs. 5. that, “probably the quartz sands have been “from the beginning *generated* by a viscous, or gelatinous matter *generated* by the waters, and mixed with them, then successively divided into grains, afterwards condensed and hardened.” He endeavours to prove this genesis, by the fissures which are discovered by the microscope, in the small atoms of sand, and the adhesion of metallick particles to these grains; though it may be demonstrated by an easy experiment, that a piece of quartz taken from any mine, well pulverised under the hammer, and afterwards washed in water, gives grains of sand, in which may be seen the same fissures and metallick particles, which appear, by means of a glass, in the sand quartz under water, or under ground, deposited by ancient waters. After all this, is it not somewhat extraordinary, that the learned Wallerius will hardly allow that calcareous sand is produced by sparry and calcareous stones pulverised, (p. 109) and with difficulty says, that *probably* it proceeds from them. If that great man had set himself to make a new theory for calcareous sand likewise, he would perhaps have called in question the origin of the largest gravel, and even of the masses that roll sometimes from the top to the bottom of mountains; and who knows how many other new things he might have said?

In the small sand on the top of the mountain, at a place called Crazzich, there are some scattered heaps; and also some perpendicular veins of *geodes*, so compact and heavy, as to deserve a place among rich iron minerals. In old times, the back of the

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mountain was covered with elm trees; and from the side of it, that looks to Loparo, the rain washed down to the sea shore that kind of quartzose, very minute sand, known by the stone cutters, and glaziers, by the name of *Saldame*. It is probable, that Pliny,* spoke of this situation, where he says, that, for sawing marble, there was found a good species of sand in a shallow bay in the Adriatick, which at low water, remained dry. That part of the shore, which lies at the foot of the rough stoney hill, still called *Verch od Mela*, the hill of sand, though there is no sand on it now, is all of *saldame*, as are several other spots on the island, where the sea beats against the roots of sandy hills. This is one of those cases calculated to embarrass future naturalists: though it is a case that has happened before, as you will see by reading a little further. The sand, which occupied the superficies of the mountain, where, upon strata of *orthoceratitic* marble, and *breccia* of very ancient origin, it had been deposited by seas, or ancient rivers, (which seems more probable, as it has no vestiges of marine bodies) is now carried down by the rains from its former residence, and mixed with the testaceous bodies of a new sea, which produces not sand of a like nature, by destroying the littoral calcareous hills. Who knows in what space of time this sand may become petrified, together with the marine bodies, and in how long a space after, it may form the base of new hills. It should seem that this species of sand came from very distant parts; as no mineral hills exist along our Adriatick; and that it has undergone other revolutions before the present. In the hill, on which the city of Arbe stands, the whetstone has this sand for its base, and in several places,

* Pliny, L. XXXVI. cap. vi.

places, it contains a prodigious quantity of *lenticulares*, which are, as every body knows, productions of a still unknown sea; the *porpitæ*, described by Linnæus as their original, * not agreeing with them. In the hills of Laparo, are frequently found fossil *nummali*, scattered in the sand scarcely indurated, so that the eventual waters separate them, and carry them away. In these arenaceous hills, which the contiguous sea is destroying by little and little, are also frequently found exotic *echinites*, of various species and sizes; and likewise on the banks of the port of Arbe, opposite to the city. Near the port of Campera, and at port Domich, the quartzose sand stone of the hills contains vast quantities of *ostracites*, and fossil *nummali*. It is evident, that these hills are of posterior formation to that of the mountain: yet notwithstanding, they must be very ancient, as they contain petrifications strangers to our seas, and to the present climates! In the hill where the Arbegiani have their pleasant walk, there are, in the whetstone, irregular small pieces of flint and jasper, in which marine fragments are sometimes seen. I would not, however, draw the conclusion that Wallerius does (p. 305) "Hence it is evident, that there are also Deluvian jaspers generated by fluid matter, that can receive and enclose within them extraneous bodies." The repeated observations made on the changes of which stones are susceptible, have convinced me, that, for the most part, neither flints nor jaspers have ever been in a fluid state; and I have in my possession a small series of fossil productions of the Euganean hills, collected with my own hands, from which much light may be drawn, relative to the genesis of this class of stones.

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* Caroli Linnæi Amæn. Acad. T. i. pag. 177. *De coralliis Balthicis*. Fig 5. 2. b. T. iv. p. 257. *Chinensia Lagerstromiana*. Fig. 7, 8, 9.

The *breccia* of the mountain of Arbe takes a fine polish; it is usually streaked with white, and united by a very lively red cement. The pieces which compose it are angular, and of fine marble. As I have ventured already to say something against the opinions of Wallerius, concerning the generation of sand, I cannot help confessing to you, that his theory of the aggregate stones appears to me still more strange, and contrary to physical observations. I do not mean to raise myself by censuring that great naturalist; and only desire that you will excuse me if I do not admire him on this point, as I really do on so many others. He says,* “that it hardly seems possible to him, that the *saxa*, “and stones, composing the aggregate strata, could have mutually *conglutinated*, if they had not been of a softer consistence; “as the *conglutinate* matter could never find entrance into perfectly hard stones.” Hence he concludes, “1st, That the fracture “of the stones has been operated in the moment of their desiccation, and induration, by the respective attraction of the particles, by compression or precipitation, or some other similar cause. 2d, That these aggregate stones adhered together, to form one body, while they were yet in a soft state. 3d, That “this union, or adherence was at least begun in subterranean “places, where the fractures were executed; it seeming impossible, that any generation, or stoney *conglutination* can be made “in the open air. 4th, That the *conglutination* being begun, or “perfected, these stones have been thrown out upon the superficies of the earth, and mountains, by some prodigious force. “In a word, that the fracture of the materials, and the beginning of their *conglutination* have been antediluvian, and the presence of *saxa* and *conglutinated* stones on the surface of the earth, and

* Wall. Syft. Min. p. 431. obs. 2. ed. cit.

“and mountains, diluvian.” I shall not at present take notice of the impropriety of the words implying glue, which has certainly nothing to do in calcareous or vitrescent aggregates, formed by crystallization or tartarization, and by fusion sometimes more, and sometimes less perfect. The four propositions of Wallerius are contradicted by fact; and as to the first, it is a certain truth, that the angular small stones, of which the *breccia* are formed, are confused and mixed together, and various in their composition, insomuch that they cannot even be suspected of ancient continuity. Besides, the *breccia* that we see formed at the bottoms of mountains, and by the sides of torrents, manifestly shew us the mechanism which nature makes use of to join them together. Nor is it credible that the stones, which compose the *breccia*, have been soft at the time they were congested together. One needs only break some pieces of *breccia*, to see that each small stone stands by itself; and it often happens, that they may be separated one by one, when the cement, which keeps them united, is not sufficiently hardened into stone. If they had been soft at the moment of coagmentation, the one must frequently have penetrated the other, which is never seen. The third assertion is inadvertent in every respect; since, by examining the aggregate stones, by means of water, it is very plain, that they could not possibly be united under ground, as may have been the case with those which owe their production to volcanic fire. It shows a singular inattention to say, that, in the open air, it does not seem possible for stoney substances to be generated or hardened: as a quantity of *stalagmites* are actually formed in places the most exposed to the air; and the stoney incrustations of the hot springs grow daily in the open air, under the eye of the observer. The fourth is absolutely contrary to matter of fact; as the *breccia* are found disposed in vast and regular

gūlar strata, above other strata of less various composition, but of equally vast extension; nor can it be imagined, that a subterraneous force could throw them out, from the bowels of the earth, without mixing and disjoining them a thousand ways. Besides, the distinction of the two periods antediluvian, and diluvian, does not seem satisfactory. According to his diluvian system, how will Wallerius account for the many petrifications of exotic marine bodies within the pebbles that compose the *breccia*?

Breccia, however, is not the most interesting or valuable marble furnished by the island of Arbe, and the two small islands of S. Gregorio, and Goli contiguous to cape Laparo. There is great plenty of white statuary marble, the grain of which is exactly like that used by the ancient Romans, which was not always Greek, as is commonly believed. It has not that whiteness of snow, which passes for a good quality in the marble of Carrara, and which often deceives the statuary, as well as the judges of his work. The perfect resemblance between the Roman statuary white marble, and that which is found at the foot of the mountain of Arbe, towards Loparo, and in the two small islands mentioned above; the ancient name of Loparo, which I was told was found by ancient records still existing in Arbe, to have been *Neoparos*; the probability that the Romans, by going to take the sand mentioned by Pliny, in the neighbouring shallows, might have discovered this marble, which is found thereabouts in great abundance; the great quantity of broken angular and irregular pieces of it still to be seen at the foot of the *monte della Sabbia*, though now the superficies is corroded by time, are reasons, which induce me to believe, that there were ancient marble quarries in this place, from whence the Roman statuaries had

had a part of their materials. The substance of the salutary marble of Arbe, is an aggregate of *orthoceratites* and *nummali*, of the largest size; but, to discover them, it is necessary to examine some of those broken corroded pieces, which I just now took notice of, for when the marble is smooth, every vestige of extraneous bodies disappears; so equally have the petrifications been perfected both in the substance and colour. In breaking some pieces of this statuary marble, I found it crystalized within, like the other sorts comprised in the class of saline marble. This discovery pleased me more than any other observation I had hitherto made; because it appeared more immediately useful to the nation, and the best calculated to free us from a considerable annual expence in the purchase of two large cargoes of Carrarese marble. And the discovery is so much the more opportune, because we now receive no marble from Carrara of a good quality; since the English have established an agent at Massa, who buys up for their account, all the purest pieces, leaving, for the Italians, that, which is veined, and soiled with the colour of ashes, which succeeds very ill in statues, or in any other noble work.

In the waters of Arbe and Pago, I made many observations on the marine *phosphorus*, of which I promise to give you an account, as soon as I have reduced them to some degree of perfection. In the meantime, my learned Friend, accept of what I am able to give you; and look upon this letter as a proof of my friendship and veneration for *you*, who occupy so eminent a place among the naturalists, and prove to the *literati* beyond the mountains, that, even in the present age, there lives among us the genius of a Vallisnieri, and a Redi, who did so much honour to our Italy heretofore.

Observations

O B S E R V A T I O N S

O N T H E

Island of CHERSO and OSERO.



Of the various ancient Names of the Island, and the Writers who mention it.

THE island *Cherso* and *Osero*, for which I sailed from Venice about the middle of May 1770, in company with John Symonds, Esquire, an English gentleman, and Dr. *Dominico Cirilli*, professor of botany and natural history at Naples, under the auspices of the most generous patron of the sciences, and of natural history in particular, is situated in the rocky and stormy bay, which, by the ancients, was called *Carnicus*, *Flanaticus*, *Polaticus*, *Liburnicus*, and, in our days, is known by the name of *Quarnaro*. The island lies between the coast of Istria and Dalmatia, extending from north to south, sixty miles in length, with a very unequal breadth. In more remote ages, the history of which is blended with fable, it was much known, and had various names, the most ancient, however, seems to have been the island *Brigeide*, or the islands *Brigeidæ*; but its usual name, almost three thousand years since, was *Apfirtides*,

A a a

Apfirtus,

Apfirtus, or *Apfirtius*. *Scylax Cariandenus*, the oldest of the geographers of whom the works or fragments are now extant, and who lived about 422 years before our era, knew it by the name of *Apfirtis*; and, in his *Periplus*, leaves us the dimensions of it. *

Scymnus Chius, who lived 332 years after *Scylax*, speaks also, and more diffusely of the *Apfirtides*, placing them together with the Liburnian islands very properly, and very improperly with the *Electrides*. He says, “that, in the Adriatick sea, there are “many islands disposed like *Cyclades* in an inward bay, of which “some are called *Apfirtides*, others Liburnian, and *Electrides*.” He adds, “They say that those islands in a bay of the Adriatick “are inhabited by near a hundred and fifty thousand barbarians, “who cultivate a rich and fertile soil. There the ewes often “bring forth twins. Though near the *Ponticum*, the climate “of these islands is different; neither snow nor frost remains “long on them, but the rains maintain the soil continually fresh “and moist; the sky is frequently darkened on a sudden, especially in the summer days, and thunder, whirlwinds, and typhons burst out.” †

Dyonfius

* Αψυρτις νῆσος σαδίων τῆ. πλατος δὲ εἰς. “The island *Apfirtis*, is cccx stadii “long, and cxx broad. *Scyl. Cariand. in Periplus. inter Geograph. min. ab Hudsono collectos*. And here it is observable, that *Scylax* gave the measure of this island in preference to almost all the others, shewing thereby, that he thought it of greater consequence. The unskilfulness of copists has probably altered the numerical figures, since they by no means correspond to the true length and breadth of the *Apfirtis*; unless they were to be taken for the measures of only the half of it, as far as the *Euripus*.

† Τῶτων δὲ τὰς λεγομένας Ἀψυρτίδας,
Ἡλεκτίδας τε, τὰς δὲ καὶ Λυβυρίδας.

Τε.

Dionysius in his *Periegesis*, commented, some ages after by *Eustathius*, says: "The islands of *Apfirtus* occupy a large space, and "there the sons of *Colchas* rested after their long voyage." * *Strabo*, has adopted the etymology which seems indicated by *Dionysius*, speaking of the *Apfirtides*, † and says, in his VIIth book, "near the coast of which I have been treating, lie the "islands of the *Apfirtides*, in which there is a report that *Medea* "killed her own brother *Apfirtus*, who was pursuing her."

Besides the Greek geographers of the good times, other writers, both in verse and prose, have taken notice of our island. *Orpheus*, whose poem, upon the expedition of the Argonauts,

A a a 2

is

Τὸν κολπον ἰσορῶσι τὸν Ἀδριαπκὸν
 Τῶν Βαρβάρων πληθὸς τι περιόκειν κύκλῳ
 Ἑκατὼν σχεδὸν μυριάσι πεντήκοντά τε,
 Χώραν ἄριστον νεμομένης, ἢ καρπύμην.
 Διδυμοτοκεῖν γὰρ φασὶ καὶ τὰ θρέμματα.
 Ἄηρ διαλάσσαν δὲ περὶ τὸν (*) ποντικὸν
 Ἔστιν ὑπὲρ αὐτῆς, καίπερ ὄντας πλησίον.
 Οὐ γὰρ νηφτωδὴς, ἔτ' ἄγαν ἐψύγμενος,
 Ὑγρὸς δὲ παντάπασιν διὰ τέλης μένει
 Ὀξύς ταραχώδης ὣν τε πρὸς τὰς μεταβολάς,
 Μάλιστα τε θερμὸς δὲ πρηγῆρων τε, καὶ
 Βολὰς κεραυνῶν, τὴς τε λεγομένης ἐκεῖ
 Τύφωνας . . .

* αἱ Κελτικόν?

Σκύμν. Χίος. in *Periegesi. ap. eundem Hudsonum. v. 369. & seq.*

* Ἐξείης δὲ ποροῖο πρὸς αὐγὰς Ἰονιοῖο
 Αψύρτε νήσων ἀναφαίνεται ἀσπετὸς ὄλκος
 Τὰς ποτε κόλχων υἱὲς ἐπέδραμον . . .

Dionys. Oeconom. Perieg. v. 487. & seq. Ibid.

† Παρ' ὅλην ἣν εἶπον παραλίαν νῆσοι μὲν αἱ Ἀψυρτίδες, περὶ αἷς ἡ Μηδεία λέγεται διαφθεῖσθαι τὸν ἀδελφὸν Ἀψυρτον διώκοντα αὐτήν. Στραβ. βιβλ. η.

In which passage it is observable, that the voyage of *Apfirtus*, in consequence of *Medea's* flight, does not seem to have been counted among the fables.

is certainly a very ancient composition, and, for that reason, the language of it was modernised about the times of Homer, speaks of the islands *Apfirtides*, and says plainly, that they took their name from the dead body of the prince who had landed there.* And, in

* Νύξ δὲ τότε ἄστροχίτων μίσσην παρήμεμβε πορείαν.
 Ἐκ δ' ἰτελεῖται δόλος τυχερός, καὶ κύρες αἰδῶναι
 Μηδείης ὑπ' ἔρωτος, ἐπιπλῦτ' Ἀψύρτιο.
 Ὅν' ῥα κατακτείναντες, ἐπὶ προχοᾷς μεθέηκον
 Ὀρευμένε ποταμοῖο. Φέρεν δ' ὄγε πνεύματι κραυπνῶ.
 Θειόμενος δὲ διναις εἰς κύμ' αἰλὸς ἀτρυγέτοιο
 Κέλσεν ὑπὲρ ἡσων, Ἀψυρτίδας ἄς καλίσσιν.
 Ἄλλ' ἄρα ἔτι λάθων Διὶ ἱπόψιν, ἡδὲ δέμισας. *Orph. in Argonaut. v. 1026. & seqq.*

“ And now the night, adorned with its starry mantle, had finished half its
 “ course, when the horrid treason was executed, and the noble *Apfirtus* fell a sa-
 “ crifice to the fatal love that *Jason* had kindled in the breast of *Medea*. They
 “ both together threw the dead body into the river. And by the winds and
 “ waves, it was carried through the desert sea to far distant islands, which from
 “ thence were called *Apfirtides*. But the execrable deed was not concealed from
 “ the eternal justice, nor from the father of the Gods, who sees every thing.”

The body of *Apfirtus*, according to *Orpheus*, was thrown into the *Phasis*, and carried by the current of that river, into the black sea, from whence, passing through the Thracian Bosphorus, it entered the *Propontis*, passed between *Sestos* and *Abydos*, traversed the Archipelago and Ionian sea, was driven by the winds into the Adriatick, and at last landed on the Liburnian islands: a strange voyage indeed, which the living are many days in making, and the dead never make in our times. In the mean time, while the body of *Apfirtus* was on its voyage towards our coasts, the Argonauts were sailing towards the north coast, with the intention of steering afterwards due north. They entered the *Paulus Meotis*, and run into the *Tanais*, with all the boldness of sailors who knew their course, and were certain of being able to pass, from river to river, or from rivers into lakes, till they arrived in the northern ocean, though they were not exactly and particularly acquainted with the way. This navigation was believed impossible and fabulous, and the rather, because *Orpheus* sometimes falls manifestly into fable, by which he chose to cover allegorically, according to the custom of his age, who knows precisely what truth. He mixed a great deal of the marvellous in his voyage,

in later ages, the same opinion passed constantly from writer to writer, insomuch that the abbreviator of *Stephanus Byzantinus* gives the same etymology as agreed upon by all the Greeks, and many of the Latins who took it from them.* Lucan† and the elder

voyage, as Homer did in the peregrinations of Ulysses. But as the navigation of the Mediterranean was well known three thousand years ago, and the contrary, cannot be deduced from Homer's fables; so it is reasonable to believe, notwithstanding the mixture of allegory by *Orpheus*, that, in ancient times, the inland navigation up the *Tanais*, and down the *Devina* or *Neva*, was also generally known. In our days, perhaps the internal country, that lies between the *Paulus Meotis* and the ocean, is less known than it was in the days of *Orpheus*, or even before his days. At any rate, the best maps shew us that there actually is an artificial communication between the Black Sea and the Caspian; and every body knows, that the wood, for building the Imperial fleet, is transported by water, from the Caspian sea to Cronstad. Strabo, in his eleventh book, says a great deal of a voyage, by water, from the black sea to the Caspian, the Argonauts did not, perhaps, make this voyage in reality; but *Orpheus* writes with too much precision, and by attributing such a voyage to them, plainly shews that he had a knowledge of those parts, which after him was lost. It does not seem credible, that the whole was a fiction, as in many things he hit so well on the truth.

* Αψυρτίδες νῆσοι, πρὸς τῷ Ἀδρίᾳ, ἀπὸ Ἀψύρτου παιδὸς Αἰήτου ἐν μιᾷ δολοφονθέντος ὑπὸ τῆς ἀδελφῆς Μηδείας. οἱ νησιῶται Ἀψυρτεῖς, καὶ Ἀψυρτίοι. *Steph. Byzant. Epit.*

“The islands *Apsirtides* in the Adriatick, so called from *Apsirtus*, son of *Eeta*, who was traitorously slain by his own sister *Medea*, in one of those islands. Hence the islanders are called *Apsirtesi*, and *Apsirtii*.” And, in another place, speaking of the coast of *Liburnia*: Φλαῶν πόλις καὶ λιμὴν, περὶ τὴν Ἀψυρτου νῆσον. *Flanona*, “a city and port near the island *Apsirtus*.”

† *Colchis, et Adriacas spumans Apsirtis in undas.* Luc. *Pharfal. lib. V.*

On which passage the note of *Farnabius* is observable for its geographical error: he says, *Insula maris Adriatici, cum fluvio cognomine in mare prolapsa sub Illyrico.* “An island of the Adriatick sea, which has a river of the same name, that falls into the sea near the Illyric.” But it is more shameful to see, in the dictionary of seven languages, printed, perhaps, thirty times by the seminary of Padua, on the same passage of Lucan, “*ibi de fluvio quodam sermo est, qui in Colchis nascitur,*

elder Pliny mentioned this island; and though the poet only took notice of it by the bye, just naming it, the naturalist and geographer is somewhat more particular. * It should seem, that, at least, the professed geographers, whose duty it is to be well informed of the true names of places, ought to have been unanimous in fixing the name of this island. Yet it was not so. *Ptolemy*, instead of *Apfirtis*, called it *Apforos*, and names distinctly the two cities *Cherso* and *Osero*, Κρέψα, καὶ Αψορρος. †

Since

“*nascitur, et in Adriaticum se exonerat.* Lucan speaks of a river that rises in Min-
“*greliæ*, and falls into the Adriatick.” It appears impossible that such blunders pass unnoticed for more than half a century, under the eyes of persons dedicated by profession to learning, and the instruction of youth.

* Pliny speaks twice of this island, with some variation. “*Insulæ ejus sinus cum*
“*oppidis, præter supra significatas, Apfirtium, Arba, Crexa, Giffa, &c.* The islands
“of that gulf, which have towns, besides those already mentioned, are *Osero*,
“*Arbe, Cherso, Pago, &c.* l. iii. c. 21. And in c. 26. of the same book: *juxta*
“*Isirorum agrum Ciffa, Pullaria, & Apfirtides Grajis dictæ, a fratre Medæ ibi*
“*interfecto Apfyrto*, i. e. Near the lands of the Istrians lie *Figheruola*, the island
“of *Brioni*, and *Cherso*, and *Osero*, called *Apfirtides* by the Greeks, because *Ap-*
“*firtus*, the brother of Medea, was killed there.”

† It seems that Ptolemy also thought, that *Cherso* and *Osero* ought to be reckoned one island only, making no account of the very narrow *Euripus* that divides it. Νῆσοι δὲ παρακείμεται τῇ μὲν Διευρυῖα Ἀφορος ἐν ᾗ πόλεις δύο, Κρέψα, καὶ Ἀφορρός. καὶ Κερικτα, ἐν ᾗ πόλεις δύο, Φελφίνιον, Κερικτον. Πτολ. βιβλ. β. “The islands adjacent
“to Liburnia are *Apforus*, in which are two cities, *Crepsa*, and *Apferrus*, and
“*Curitta (Veglia)* where there are also two, *Fulsinium*, and *Curitta*.” Father *Dolci*, the Raguscan, in his learned treatise, *De Illyricæ linguæ amplitudine, et vetustate*, will have it, that the island of *Veglia*, in ancient times, was called *Coritta*, and not *Curicta*; and draws its denomination from the Slavic word *Coritta*, which signifies a trough. I would rather derive it from the greek κερραι, and am persuaded those islanders would more readily embrace my etymology. Since I happen to be speaking of *Veglia*, I think I ought to take notice of a geographical error of *M. de la Martiniere*. He assigns thirty miles of circuit to that island, and thus makes it much smaller than it is: for it is actually thirty miles long, and its greatest breadth is about fourteen. *V. Martiniere Diction. Geograph. Crit. &c.*

Since the ancient geographers did not precisely agree about the name of our island, it is no wonder that the poets and historians differ on the same article. *Apollonius Rhodius*, in his IVth book of *Argonautics*, gives the denomination of *Brigeidi*, and islands of *Diana*, to *Cherso* and the adjacent islands. But the same author, soon after, relating the death of *Apfirtus*, says, his bones were buried near the city, which had taken its name from him, and given it to the *Apfirtesi*. * *Pomponius Mela*, † the most exact among the ancient Latin geographers, gave it two names; dividing the two parts. Pliny was not constant in this point, sometimes calling the island of *Cherso*, and *Ofero*, together

* *Apfirtus*, according to *Apollonius*, was killed on that part of the island now called *Ofero*.

—— νῆς χερδόν, ὅν ποτ' ἔδειμαν
 Ἀγέμευδι βρυγὴ περιβάλλεται ἀντιπύργῳ.

“Near the temple which the Brigii inhabitants had erected to Diana on the opposite side.” But he was buried near the city.

—— Ἐνθ' ἔτι νῦν περ
 Κείται ὁ γὰρ κῆνα μετ' ἀνδράσιν Ἀψυρτιῶσιν. *Apoll. Rhod. Argon. l. IV.*

† In *Hadria Absorus*, *Celadusse*, *Abfyrdis*, *Iffa*. *Pomp. Mela*, l. II. c. 7. “In the Adriatick, *Ofero*, *Celadusse*, *Cherso*, *Lissa*.” *Pomponius Mela*, by dividing the two parts of the island, and reckoning them as two separate islands, shews us the error into which *Magini* fell, in believing that the channel, which divides the island of *Ofero* from *Cherso*, was made in times not far from ours: he says; “In past ages these islands were only one; but the Venetians having let in the sea . . . divided them in two.” It is probable enough, that, in very old times, there was an isthmus between *Ofero* and *Cherso*: but the channel, though perhaps made by art, is not a work of the low ages. *Magini* (*Descriz. del mondo Ven.* 1598) probably found, that the Venetians perfected, and fortified that pass, as was really the case, but he altered the fact by relating it wrong.

ther, *Apfirtius*, in the singular number, and sometimes *Apfirtides* in the plural, including perhaps, the adjacent little Islands.*

In the low ages, it was called by the historian, *Socrates*, *Nicephorus*, *Callistus*, and *Sozomenus*† the island *Fianona*, and by *Paulus Diaconus*,‡ *Insula Flanonensis*, taking the name from the neighbouring city *Fianona*, or *Flanona* in *Liburnia*. The *Slavi*, by whom it was taken by force of arms, or perhaps retaken in the middle times, gave it the name of *Oforo*. *Palladio Fofio*, or *Negro*, a Paduan writer of the xvth century, has made honourable mention of it, in his little work *de situ oræ Illyrici*, l. 2. § and
Giovanni

* From this inconstancy of Pliny, and some other notions of his, which we shall take notice of in going on, it may be supposed, that that good naturalist was not well acquainted with the coasts of *Liburnia*, *Illyrium*, and the islands near them; and that he had not visited them in person, as every one ought to do before he undertakes to describe a country. The venerable author, however, should not be too much blamed for this, as, in his work, he was to treat of the whole known world, of consequence he was obliged, for the most part, to trust to the relations of others.

† Σωκράτ. Ἱστορ. Ἑκκλ. Βιβλ. 6. cap. 26. Νικίφ. Καλλις. l. ix. c. 32. Σοζόμ. l. iv. c. 6

‡ Ob quam rem Constantius indignatus evocavit Gallum; qui quum contemnere non posset, veniebat ad principem; quumque contra insulam Flanonensem venisset, eum illic Constantius jussit interimi. “At which Constans being offended, recalled Gallus (from Palestine) And he, not having a sufficient force to disobey the command of his prince, set out on his return. But on his arrival at the island of *Flanona*, he was put to death by order of Constans.” *Paul. Diae. lib. 12. Hist. Miscell.*

§ E regione Istriæ, sinu Palatico, quem nautæ carnarium vocitant, interveniente, duæ sunt (insulæ) tenui Euripo disjunctæ: ad meridiem Absyrtium, quæ ambitu colligens stadia circiter quingenta vicatim tantummodo habitatur; et ad septentrionem Crexa duplo pene major, in qua duo sunt oppida, Abforum semidirutum, & alterum eodem quo insula nomine, quod egregie habitatum nunc illustratur Antonii Marcelli ordinis minorum multijuga doctrina, & vitæ integritate. Utraque autem insula pecorosa est, & lignorum abundantissima:

Giovanni Lucio, in his classical book, *de regno Hungariæ et Dalmatiæ*, in which the best records are found concerning the Illyrick affairs, which, before his time, were involved in the darkness of barbarous antiquity, and which he was the first to illustrate. *

Besides the abovementioned Greek and Latin writers of different ages, many authors, Greek, Latin, Italian, and of other nations, have taken notice of this island in their works; but it would be tedious to transcribe what each of them has said on the subject in particular; nor do I think all the accounts they have given of it, taken together, are sufficiently explicit or satisfactory. Setting aside, however, the authors of the two last ages, †

B b b

of

abundantissima, &c. That, is “Near Istria, in the Polatick bay, which the sea-men call *Quarnaro*, there are two islands separated by a narrow channel of sea; “*Abfyrtium (Osero)* which lies to the southward, and is about five hundred *stadii* “in circumference, whose inhabitants live in villages and hamlets. On the “north side lies *Crexæ (Cherso)* almost twice as large, and has two cities, *Abforum* “(*Osero*) which is almost ruined, and the other, which bears the name of the “island. This city is well peopled, and rendered illustrious in our days (about “1470) by the universal learning and exemplary life of *Antonio Marcello*, a Franciscan friar. Both these islands abound in sheep and wood.”

* *Giovanni Lucio*, besides his celebrated work *de Regno Hungariæ, &c.* wrote many other historical memoirs concerning *Illyrium*. They say that these writings are preserved at Rome, where he died, among the manuscripts in the Vatican: and it would be well worth while if some person took the trouble to examine the papers of a man who was equally learned and diligent; there might certainly be found among them some valuable documents and anecdotes, which, through time and barbarism, are otherwise lost. The Illyrick nation ought to be particularly interested in this enquiry.

† *Mauro Orbini*, *Regno Degli Slavi*. *Freschot*, *morie storiche della Dalmatia*. *Pietro Coppo*, *del sito dell' Istria*, a rare work, printed in 1540. *Carlo Steffana*, in his *Dizionario Geografico*, *Baudrond, &c.* Many Venetian historians, *Father Farlati*,

of some of which I shall insert the names in a note, that they may be consulted by those who chuse it, I do not think I ought to leave unnoticed the errors of the writers of the *Encyclopedie*, *Cluverius*, and *de la Martiniere*, who may lead many others into mistakes, as they actually led me at first. Therefore I shall take the liberty, in the proper places, to set their mistakes in view. At present I shall only take notice of the shameful blunder of the author of the geographical articles in the *Encyclopedie*,* who puts the island of *Osero* in Italy, and shews thereby, that, either he did not know the situation of the first, or the ancient and modern confines of the last. Of this blunder, which is not the only one I shall have occasion to speak again, † it is very disagreeable indeed,

Farlati, *Illirico sacro*, *Bordon*, all the authors on the islands, and especially *P. Coronelli*, *P. d'Avity*, in his *descriptions*, which are accurate, and lastly, *Salmon* in his book of voyages.

* *Diction. de l'Encyclopedie*, art. *Osero* or *Osero*.

† To transport an island from one kingdom to another, or from one province to another, is certainly a mistake which does no honour to a geographer, but to create a city where one never existed, is still worse. The *Chevalier de Iaucourt* frequently inserts, in his articles, such particulars concerning a place as really are not, and takes no notice of those for which it is remarkable. We will take, for example the article of *Albano*, a village well known among us. In the *Encyclopedie* it is called "a small city of Italy, in the Paduan territory." *Albano*, which, in our days, is a very small village with few inhabitants, was never either city, or town, or castle. No higher title than that of village or hamlet, could ever be given it; but it was, and is still so famous for other reasons, that the geographer may be justly blamed who only said two or three words about it, and even those not true. He ought rather to have taken notice of the medicinal qualities of its hot baths, and the curious phenomena, that may be observed about it, both in the vegetable and animal kingdoms. Nothing of this, however, is mentioned in the *Encyclopedie*, and to multiply inaccuracies, the same geographer, a few articles after, talks of an "*Apon*, a fountain of Padua, where there never was a fountain of that name; which seems coined by caprice, being neither Greek, Italian, Latin nor French.

deed, that, in a work of such distinguished merit, there should be found so capital mistakes of all kinds, which certainly ought to be corrected. Errors of fact, especially, ought not to be perpetuated; and if, through the inattention or insufficiency of any member of that illustrious society, too great a number are obvious in the first edition, the subsequent editions should at least be revised and corrected.

Concerning the Origins of the various names above mentioned.

The name of *Apfirtides* is certainly the most ancient appellation of these islands recorded in any writings now extant. The Greek authors, for the most part, derive it, as has been already observed, from the murder of *Apfirtus*; as they say so much about the expedition from *Colchos*, in pursuit of the argonaut adventurers, and of the royal maiden *Medea*, that it would be a kind of presumption to assert the whole to be a fable from beginning to end. I believe I may say in this case with our Dante:

“ O voi che avete gl’ intelletti sani,
 “ Mirate la dottrina che s’asconde
 “ Sotto ill velame de’ RACCONTI strani.”

I am very far from pretending to see the story of the voyages and death of *Apfirtus*, in so clear a light, as to take on me to affirm it demonstratively true: yet I cannot deny, that I am rather disposed to believe it not altogether false. Indeed I should look upon myself as without any criterion, if I judged otherwise. Let this be, however, as it will; if we chose to derive the names of *Apfirtides*, *Apforus*, *Crepfa*, and *Afforrus* from a source more

simple, and which requires fewer discussions, their etymology is found in the Greek roots very well adapted, and reasonable. From the *Syrtes* or quicksands, which are frequent in this tract of sea, ἀπὸ τῶν συρτέων, and from the adverb ἀψ, *behind*, it should seem that the collective *Apfirtides* might have been derived, signifying island *beyond or behind the quicksands*. So likewise, from the same adverb ἀψ, and ὀρος *a bill*, the name of *Apforus*, Αψορος may probably have been given to that part of the island lying towards the north, which would seem hid *behind the bill*, to those who came by sea from Greece. *Apforrus*, Αψορρος, the ancient name of the city, situated on the narrow channel, at the extremity of that part of the island, that has the separate name of *Cherso*, at the foot of the mountain, was probably first given to the *Euripus*, or channel itself, where there is a very violent eddy of flux and reflux, and afterwards communicated to the contiguous city. The word Αψορρος signifies precisely *retrograde*, and the narrow channel, that divides *Cherso* from *Osero*, merits that title perfectly well. I am sorry that I cannot so naturally bring the derivation of the two Greek names of *Cherso*, Κέρσα and Κρέξα, from the future of the verb Κρέω, *I command, I reign*; because that etymology seems rather adapted to the capital of a more considerable and powerful island, than any of those in the Adriatick can well be supposed to have been in ancient times. At any rate, I would rather chuse thus to strain the derivation, than to allow Father *Dolci* to change the name of *Crepfa*, into that of *Crapfa*, which, in Sclavonian, signifies *rapine*. The Father just mentioned, must have been in no good humour with the inhabitants of the principal islands of the *Quarnaro*, when he derived the name of *Veglia*, called, both in Greek and Latin, *Curicta*, from the Slavic word *Coritta*, *a hog's trough*; and when he

he sought for the etymology of *Crepſa*, in the word *Crapſa*, *rapine*, or *robbery*. *

According to the ſtory of *Apollonius Rhodius*, *Cberſo* and *Oſero* were named *Brigeidi*, and iſlands of *Diana*, before they were called *Apſirtides*; and that thoſe names were taken from a famous temple of *Diana*, and from the inhabitants, who were *Brigii*, deſcended from the neighbouring hills. By an unaccountable miſtake of the Greek hiſtorians of the low times, ſome of them gave thoſe iſlands the name of *Flanona*, an ancient city of *Liburnia*, ſituated, not far from the northerly point of *Cberſo*, on the continent. Perhaps, on the faith of thoſe authors, or on account of ſome other circumſtance, of which the memory is loſt, they were called *Infula Flanonensis* by *Paulus Diaconus*. This name, which gives ſome ground to believe that the iſland was once dependant on the city of *Flanona*, perhaps was given it at the time when it deſerved the name of *Cberſo*, *χέρσος*, which ſignifies † *uninhabited, uncultivated, deſert*. I am apt rather to believe this, than to ſuppoſe the word *Cberſo* corruptly derived from *Crepſa* or *Crexa*.

That

* Father *Dolci*, in his little work quoted before, would have a letter changed in the ancient name of *Crepſa*, and appeals to the authority of *Ablavius*, a writer whom I do not know, and whom the father qualifies as ancient and worthy of credit. There was an *Ablavius*, one of *Conſtantine's* courtiers, who drew the true character of that prince in a few verſes: and an *Ablavius*, but not a geographer, lived under *Theodoſius* the younger. I ſuſpect that this geographer *Ablavius* may be *Blau's Atlas*, called *Blavius* by ſome writers. This, however, would not be very ancient, and worthy of credit, only to a certain degree. Father *Dolci* has perhaps found that work quoted thus: *A. Blavii*, i. e. the atlas of *Blau*.

† *χέρσος*, *I lie uncultivated*. The greateſt part of the ground on this iſland *χέρσος* to this day.

That part of the island, which lies on the south side of the strait, had the name of *Obsara*, *Osero*, *Ossur*, or *Oforo* given it not long before or after the year 1000; but it is probable, that, since the time of the last invasions of the *Slavi*, both parts of the island bore the name of *Osero* in common, either corrupted or entire. *Osero*, and some other words of a similar sound, signifies a lake in the Scythian languages. On the point of *Kamtshatka* there is a small place situated near a lake, and is called *Osero*, taking its name from thence. And it is not improbable that the lake has also given name to our island.*

Of the ancient Inhabitants of the Island, and a Sketch of its Civil History.

All the histories of countries that have been illustrious in very remote ages, are so blended with fable, that it is extremely difficult to separate the true parts from the fabulous. The stories that had taken their rise from real and not extraordinary facts, acquired something of the marvellous, in passing from mouth to mouth, and being easily reduced from a simple to a figured style, it became at last almost impossible to bring them back to their original purity. At any rate, whenever any place, or town, is constantly mentioned, in ancient authors, as the theatre of some fabulous, or mixed event, from that period its history must be begun; endeavouring, by good criticism, to sift out the exaggerated traditions, and admitting, as not void of truth, such as appear reasonable, and not contray to observations, or facts. *Orpheus*, *Callimachus*, *Apollonius*, *Lycophron*,
Strabo,

* This *Osero* is marked in the best maps; and not only it, but almost all the other places, throughout the vast empire of Russia, have Slavic names, corresponding, sometimes more, sometimes less, with the Illyric, Albanese, Seravian, Polish dialects, &c.

Strabo, Mela, Pliny, Ptolomy, and several other ancient Greek and Latin writers, all agree in giving population and cities to the island *Apfirtis*, before the foundation of *Pola*,† a very ancient and

† *Pola* was an illustrious city, and reputed very ancient, even in the times of *Strabo*. All the geographers, and the ancient itineraries speak of it as a considerable place; and many poets and historians make honourable mention of it. *Licophon*, and *Callimachus* speak of a city of *Pola*, which had near it a deep river called *Dizero*, perhaps, from the lake through which it passed, whereof the part now remaining is still called *Jesero*; though many have thought, that the *Pola* in *Istria* was not the city meant by those authors. However, as we find a constant tradition, among the most ancient writers, of a large river that ran into the sea not far from *Pola*, and the vestiges of it are manifest in the inland parts of *Istria*, and also in the adjacent sea, I am of opinion, that the following verses are to be understood of the *Istrian Pola* and no other.

Οἱ μὲν ἐπ' Ἰλλυρικοῖο πόρῳ χάσαντες ἑρετμὰ
 Λᾶα παρὰ ξανθῆς Ἀρμονίης ἕφιας
 Ἄγυρον ἐκτίσασατο. Τὸ μὲν Φυγάδων τίς ἐνίσσοι
 Γραικός, ἀτὰρ κεινὼν γλῶσσ' ὀνόμηνε Πόλας.
 Καλλιμάχου.

“ They, resting their oars in a stoney part of the Illyric sea, not far from the
 “ serpent of the yellow *Armonia*, built *Astrium* there; a name which some of
 “ the Grecian exiles gave it, and in the language of the country it was called
 “ *Pola*.”

The names of *Pola*, and the *Reipublica Polensis* are found in several ancient inscriptions. It became afterwards a Roman colony; and we are told, by some authors, that, in the time of the triumviral wars, it incurred the displeasure of Augustus, and was pardoned by the intercession of his daughter; whence the people of *Pola*, through a sentiment of mean adulation, changed the name of their city, so illustrious and venerable for its antiquity, from *Pola* to *Pietas Julia*. Many monuments and vestiges of its ancient grandeur still remain, though ruinous for the most part, and spoiled no less by time, than by the barbarism of the inhabitants. The amphitheatre is celebrated, and still remains almost entire: the funeral arch of *Sorgius*; and the temple of Rome and Augustus; and the noble ruins of the contiguous temple of *Diana*, now transformed into stables and kitchens of the publick places; and the remains of the bath, which now
 serves

and famous city in *Istria*; which, if built by the Colcheseans, as is the constant opinion of all the historians, must be thirty centuries

serves as a perennial fountain, and supplies the inhabitants of the city and neighbourhood with water in the greatest drought. Greek and Roman coins of the good times, and Aquileian and Venetian of the middle times, are often found there, in gold, silver, and copper, as well as instruments, vases, and other ancient works. Many inscriptions have been carried away, and many still remain scattered in the streets and rubbish, or thrust without distinction into the walls, a good part of which was built of ancient stone, and may be called a mixture of frizes, cornices, statues, columns, bas-reliefs, and other pieces of wrought marble. The barbarous ignorance of the clergy of that place, buried, in the beginning of this century, a great number of ancient memorials in the foundation of the steeple of their cathedral; and the stupid indifference of the inhabitants permitted it. And thus they continue to permit any individual to bury whatever valuable piece of antiquity he meets with, in order to carry on his wretched building so much the quicker and easier.

There was also a theatre in former times, of which Serlius has preserved the ruins in his books of architecture; and I have seen them likewise in a bad impression of an old plan of *Pola*, done in the last century. It lay at the foot of the hill, which is still called *Zadro*, or *Zaro* corruptly; the steps were placed upon the curvature of the hill itself, to save substructions. A French engineer, called Anthony Deville, destroyed these remains, which were singular in the world; and made use of the materials to build a fort on the top of a hill in the very middle of the city, in the year 1636. The same man had also undertaken to demolish the amphitheatre; and would soon have ruined it altogether, if the clemency of the sovereign, at the instance of the inhabitants, who at that time did not exceed four hundred, had not made him desist. But the damage begun by that enemy to antiquity was never repaired; and that magnificent monument of the grandeur of *Pola* threatens a dissolution on one side, if not prevented in time. The work does not require much expence; the repairing of one arch, and a few other pieces would be sufficient; but if it is left abandoned much longer, the consequences must certainly be fatal.

The barbarous treatment of antiquity continued still at *Pola* after the departure of Deville, and after the death of those who buried the inscriptions in the beginning of the century. Not seven years since, in digging a well in a private house,

centuries old; as the Colchians, in pursuit of the Argonauts, landed in the Adriatick, according to the best chronological

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com-

house, a subterraneous apartment was discovered divided into galleries by brick pilasters, and all covered with slabs of Greek marble two palms broad, and about six long. The Visigoth owner of the house barbarously filled it all up with the rubbish of his well, and made such haste to close it altogether by a wall, that I did not get in time to see that subterraneous curiosity, though I was at no great distance. Another Vandal threw under ground a very well cut statue near the apothecary's shop at the corner of the market place; and seven years ago, without one of the gates, a rill of water run under a *statua togata* without the head; and it is now quite covered with earth. A few years since, many inscriptions were buried in the foundations of houses, which, however, were preserved in writing, together with several ancient silver coins by *Signor Jacopo Lombardi* a gentleman of *Pola*.

The territory of *Pola* is very fertile, nor do we find that ancient writers find fault with it for the unhealthfulness of its air. The devastations, to which it was subject in the low ages, destroying its inhabitants, and those of the country round it, were the cause also that the waters in the low adjacent grounds were neglected. And the bishops, who, in those times of anarchy and barbarism, became proprietors of the nearest, and most pernicious lakes to the city, never having taken any pains to give them an outlet, the air was rendered exceedingly unwholesome, especially in the hot season, a calamity which they, as pastors of the people, ought to have endeavoured to prevent of their own accord, at least in this humane age, without waiting for orders from the sovereign. Instead of making a canal of communication between the lakes near the city and the sea, they, some years ago, very imprudently dug an outlet for the fountain, with the view of hindering the propagation of aquatick plants, which grew in great plenty, because the bottom had never been cleaned to the depth of the ancient pavement. This canal communicates with the contiguous sea, and, at high tides, serves to conduct the salt water which spoils the fountain, and hurts the health of the people, who are obliged to use it.

There were, in former times, many ancient sepulchral monuments about *Pola*, and some still remain on the south side of it. *Dante* mentions them:

*Si come ad Arli, ove il Rodano stagna,
Si come a Pola, presso del Quarnaro
Che Italia chiude, e i suoi termini bagna,
Fanno i sepolcri tutto il loco varo.* *Inf. ix. v. 113.*

computations, about 1230 years before the birth of Christ. *Orpheus* only names the islands *Apfirtides*, and conducts his Argonauts, as we have already seen, through the *Palus Meotis*, and up the rivers into the northern ocean. But *Apollonius*, according to whose account the ship *Argos* made a less wonderful, and a shorter voyage, expressly says, there were two islands, on one of which there was a temple dedicated to *Diana*, and on the point of the other, near the sea, the Colcheseans built a fort. I think it necessary to give a brief narration of this expedition, which is very circumstantially described by *Apollonius*, as, from thence, the history of *Cberso* and *Ofero* takes its beginning.

The Argonauts, knights errants of their age, or, in other terms, usurpers of what belongs to others, either by force or fraud, formed the heroick project of getting, by conquest, the precious vest, or whatever manufacture it was, which they called *the golden fleece*, the fame of which had reached Thessaly, from *Cholchos*, where it was jealously kept. *Jason* being made captain of this adventure, embarked on board a ship, which could not be very large, accompanied by the most couragious young men of Greece, and, without meeting with any disaster, cast anchor in *Phasis*. *Medea*, the king's daughter, saw and loved him, and that circumstance facilitated the conquest. The royal maid fled with him in the ship *Argos*. *Eeta*, the king of *Colchos*, her father, dispatched warriors in pursuit of them every where, threatening his subjects, and making imprecations against them if they returned without his daughter. The Colcheseans had before that many ships, or barks, which proves, that *Jason's* ship, though it might be the first that dared to pass from Thessaly to the black sea, yet was by no means the first that sailed the sea. *Apfirtus*, the brother of *Medea*, and son of *Eeta*, was one of the captains of those little fleets.

The

The Argonauts setting sail with the golden fleece and with Medea from the river *Phasis*, arrived in *Paphlagonia* the third day after. Not thinking themselves secure in these waters, they held a serious consultation about what course they were to take, in order to escape the danger of being taken by their pursuers: Hitherto there is nothing in the story that can be called extravagant, or incredible. One of them, named *Argo*, who had succeeded *Tifes* as pilot, said he had often heard of a very ancient voyage made up the Danube, and a branch of that river which led into the Adriatick sea. This information came from Thebes in Egypt, and the priests of that country had communicated it to a Greek. In the way thither there was a city called *Ea*, where the itinerary tables of those first navigators were preserved.* The Argonauts therefore determined to return into

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Theffaly

* Νεισόμει' Ὀρχομένον. . . .

Ἐστὶ γὰρ πλόος ἄλλος, ὃν ἀθανάτων ἱερεῖς

Πέφραδον, οἱ δὴ βῆς Τριτωνίδος ἐγκεγῆασιν . . .

Ἐνθεν δὲ τινα φασὶ περὶξ διὰ πᾶσαν ὀδεῦσαι

Εὐρώπην, Ἀσίην τε, βίη καὶ κάρτει λαῶν

Σφωνιτέρων θάρσει τε πεποιδότα. μυρία δ' αἶψῃ

Νάσσατ' ἐποχόμενος, τὰ μὲν ἢ ποδὶ ναιετάουσιν,

Ἡέ, καὶ ἔ. πέλεις γὰρ ἄδην ἐπενήνοθεν υἱῶν.

Αἶα γε μὲν ἔτι νῦν μένει ἔμπαδον, υἱανοὶ τε

Τῶν δ' αἰδρῶν οἷς ὄγε καδίσσατο ναιέμεν Αἶαν.

Οἱ δὲ τοι γράπτις πατέρων ἔδην εἰρύνονται

Κυρβίας, οἷς ἐν πᾶσαι ὁδοί, καὶ πείρατ' ἔασιν

Ἐγρῆς τε, τραφερῆς τε περὶξ ἐπινηστομένοισιν.

Ἐστὶ δὲ τις ποταμός, ὑπατον κέρας Ὀκεανοῖο,

Εὐρύς τε, προβαδύς τε, καὶ ὀλκαδί νηι περῆσαι.

Ἴγρον μιν καλίοπτις ἐκάς διετικμήσαντο

Ὅς ὅποτεν θρηικῶν, Σκυθίων τ' ἐνέχεται ἕρως

Ἐνθα διχῇ τὸ μὲν εἶδα μετ' Ἴονην ἄλα θαλλεῖ

Τῇ δ' ὕδαρ, τὸ δ' ὀπίσθε βαδὺν διὰ κόλπον ἰησι

Σχιζόμενος πόντος τρινακρεῖα εἰσανέχοντα

Λαίη ὅς ἡμετέρη παρακίχεται

Apollon. Argon. l. 4. v. 157.

“ We

Theſſaly by the way of the Danube, ſailing up the river till they came to its diviſion, or to the confluence of ſome other river, that runs into it, and had a communication with the Adriatick. In the meantime, the ſhips of *Colchos* were in purſuit of them. One of their ſquadrons, having entered the *Propontes*, and paſſed the Cianeſe rocks, or the iſlands *Simplegadi*, which in thoſe times were reckoned very dangerous, traversed the Archipelago, ſteering the courſe which it was natural to think the Theſſalians would do in returning home with their prize; and landed in *Epyrus*. But the other ſquadron, commanded by *Aſſirtus*, purſued *Jaſon* and *Medea*, and even got before them, in the ſame way that they had choſen; and having entered the Danube at one of its mouths, which bathes the ſouth ſide of the iſland of *Peuce*, called alſo *Καλον*, got into the Adriatick before the Argonauts, who had choſen the northerly

“ We will return to *Orchomenus* . . . For the prieſts of Tritonian Thebes
 “ had taught the ſailors another road . . . And it is ſaid there was one of them of
 “ old, who, by his own courage, and the valour of his people, had conquered
 “ many cities in Europe and Aſia; ſome of thoſe are inhabited in our days, and
 “ others are deſcribed; as many years have elapſed ſince the time of thoſe memorable old adventures. But the city of *Ea* ſtill ſubſiſts in its ſplendour, and
 “ the deſcendants of thoſe ancient heroes which he had ſettled there. They jealouſly preſerve the table wrote by their anceſtors, in which the roads, by ſea
 “ and land, over all our globe, are noted. And there is a river alſo recorded,
 “ which runs into the innermoſt corner of the ocean; it is large and deep, and capable of bearing a loaded ſhip from one to the other ſea; it is called the *Iſter*,
 “ and comes, with its name, from diſtant parts. But at the confines of Thrace
 “ and Scythia its ample channel is divided into two branches, one of which runs
 “ into the Tuſcan ſea, entering into a deep and ſeparate gulf which reaches beyond the ſea of Sicily, and is not far from our land.”

Here it is proper to obſerve, that the ancient Greeks ſometimes called the black ſea *Pontus*, and the ocean; and confounded the Ionian and Adriatick ſea with the Tuſcan, as parts of it.

therly mouth, and had lost too much time in Palagonia. Hence it appears, that the navigation, from the black sea into the Adriatick, by the Danube, was not only known at *Ea*, and Thebes in Egypt, but likewise at *Colchos*, where there were many ships and mariners. *

Jafon and his companions, having arrived sometime after in the Adriatick, found the Colchians settled already in the island of *Cherso* and *Ofero*, inhabited in those remote times by *Brigii*, a Scythian race, allied to the ancient Phrigians, of whose emigration no written records could be expected to come down to us. *Apsirtus* had also built a fort, where the city of *Ofero* now stands. *Apollonius* goes on to relate the operations of the Colchians and Argonauts, after their arrival in the *Quarnaro*, in the following words : †

“ Then

* ————— Κόλχοι

Νῆας τ' ἐρύσαντο, καὶ ἄρμενα νηυσὶ βάλλοντες
 Αὐτῶ δ' ἤματι πόντον ἀνήσαν. οὐ δέ κε φαίης
 Τόσσον νηῖτην γόλον ἔμμεναι, ἀλλ' οἰωνῶν
 Ἰλαδὸν ἄσπετον ἔθνος ἐπιβρομέειν πελάγεσσιν.

id. v. 236.

“ The Colchians hauled their vessels into the water, and set sail the same day. Who would have imagined to see so large a fleet? they seemed more like a flock of sea fowl than ships.”

† Δὴ ῥα τότε Κρονίην Κόλχοι ἄλα δ' ἐκπρομολόντες
 Πάντη μὴ σφε λάθοιεν ὑπερμήξανιο κελεύθεσ.
 Οἱ δ' ὄπιθεν ποταμοῖο κατήλυθον ἐκ δ' ἐπέρησαν
 Δοιάς Ἀρτέμιδος Βρυγηίδας ἀγχόθι νηυσ.
 Τῶν δ' ἦτοι ἑτέρη μὲν ἐν ἑρὸν ἔσκεν ἔδεθλον,
 Ἐν δ' ἑτέρῃ πληθὺν πεφυλαγμένοι Ἀψύρτοιο
 Βαῖνον. ἐπεὶ κείνας πολλὸν λίπον ἐνδοθι νηυσ.
 Αὐτῶς ἀζέμενοι κερην Διός. αἱ δὲ δὴ ἄλλαι
 Στεινόμεναι Κόλχοισι πόρευσ ἔειοντο θαλάσσης.

“ Then the Colchians, entering the Cronian sea, shut up
 “ all the passages, so that the Thessalians could not escape. But
 “ these came down the river behind them, and arrived at the
 “ two *Brigeide*, the islands of Diana. On one of these stood a
 “ temple sacred to the goddess, and the other contiguous to it
 “ was guarded by a squadron of warriors of the valliant *Apfirtus*.
 “ The Argonauts, as soon as they came on shore, offered
 “ their vows to the daughter of Jove; and in the meantime the
 “ *Colchi* secured all the passes.”

The inhabitants of *Cherso* and *Osero* had, before that, declared that they would give all possible assistance to *Apfirtus*, whose cause was doubtless just. And it appears that they were numerous and warlike; for Jason says of them “ that there was a thick cloud of enemies around him on account of *Medea*; and that all the inhabitants of the two contiguous islands had become auxiliaries of *Apfirtus*.” This is an instance of justice, and does much honour to the ancient Chersines, and, at the same time, in a manner, contradicts the accusations of piracy, that have been laid to their charge.* It is natural for robbers to protect one another, and not to make war among themselves in favour of the robbed.

This

* ——— δυσμενῶν ἀνδρῶν νέφος ἀμφιδέδωκεν
 Εἰνέκα σεῦ. πάντες γὰρ οἱ χθόνα τήνδε νέμονται
 Ἀψύρτῳ μεμάασιν ἀμυνέμεν . . . v. 398.

After this just alliance with the Chersines against the Argonauts, it cannot reasonably be supposed that *Cherso* was originally called *Crapsa*, derived from rapine.

This alliance of the Chersines with *Apfirtus* could not but discourage the Thessalians, and *Medea* became afraid of falling a sacrifice to the circumstances. The young prince appeared inclined to come to honourable terms. *Medea* made use of this disposition to bring about his ruin, and persuaded *Jason* to accede to the treason. They made friendly presents to *Apfirtus*, and, after many preliminaries, minutely related by *Apollonius*, they invited him to an interview. *Medea* landed at the place appointed for the conference, which was near the temple of *Diana*, on the island of *Osero*; and the vessel, that carried her, returned, leaving her alone in all appearance, but *Jason* had privately landed before, and lay in ambush. *Apfirtus*, entering the strait in his ship, or rather crossing it over,* for, at that time, perhaps, it was less deep, and broader, than it is at present, landed at on the island of *Osero* in the night. *Medea*, who was well prepared, gave him to understand a thousand lies; and the simple youth began to be persuaded, that he had concluded an honourable treaty, when *Jason* fell upon him sword in hand. The deceitful woman turned about, and took no notice of what was going on. *Apfirtus* fell on his knees at the gate of the temple, and, before he expired, recollecting all his force, filled both his hands with the blood that gushed from the large wound, and threw it at *Medea*, whose white veil and cloaths were all stained with it.† This tragic deed, we may suppose, happened not far from

* Καρπαλίμως ἢ νηὶ δι' ἐξ αὐτοῦ οἰδμα περὶ στας
Νύχθ' ὑπὸ λυγαίνῃ αἰρὴς ἐπεβήσεται νῆσος.

ver. 458.

† Τῷ ὅγ' ἐν προδαμνὶ γυῖζ' ἤριπε. λοίσθια δ' ἤρως
Θυμὸν αἰσπνέων· χερσὶν μελαιν' ἀμφοτέρησιν
Αἷμα κατ' ὠτεινὴν ὑποισχετο. τῆς δὲ καλύπτρου

from *Nereine*, and perhaps the bones of the young prince, interred by *Jason*, lie in some obscure place thereabout. The island, as we have already seen, had a new name from the assassination and burial of *Apfirtus*, and was no longer called *Brigide*, or the island of *Diana*, but *Apfirtis*. And perhaps the name of *Punta Sonta*, a small promontory, near the place where it is likely *Apfirtus* was assassinated, is derived from the same tradition, and passing from language to language. It is not impossible, that this point took its name of guilty from *Jason's* crime, as the *Voltone Scelleroto* at *Verona* did many ages after, and as a gate, a street, a field, or road, used to do among the Romans for analogous reasons.

Having lost their leader, the men of *Colchos* durst not think of returning to their own country, dreading the wrath of a cruel king, now irritated by a triple offence. In the confusion caused by this misfortune, which the Argonauts announced by a sudden attack, shewing that they were not used to pay any regard to a truce, or to make it with a fair intention, the Colchians knew not what resolution to take. The Theffalians took advantage of this perplexity, and, crossing the Adriatick, landed on an island

Ἄργυφέν κ' ἀπὸ πύλων ἀλευρομένης ἐρύθηεν.
Ὅξ' ὁ δὲ πανδαμάτωρ Λοξῶ ἰδὲν οἶον ἐρέξαν
Ὀμμάτι νηλεὲς ὀλοφωῖον ἔργον ἱρηνύς.

v. 472.

“ The youth fell at the door of the temple, and then perceived he had been
“ betrayed by his sister whom he saw at some distance looking at him. He could
“ not speak ; but tearing open his wound with his hands, he filled them with
“ the blood that gushed out, and throwing it towards her, stained her robe and
“ veil. The king of the gods turned his eyes another way, not to behold the
“ atrocious deed.”

island near the mouths of the Po. From thence forward their voyage has no connection with the island of *Cberfo* and *Osero*.

When the Colchians were recovered from their astonishment, they resolved to revenge, at all events, the death of their murdered young prince; and hence they made the requisite dispositions for pursuing the Argonauts. But *Juno*, who, according to the custom of the ancient goddesses, and which is still kept up by some of the modern, was a declared protectress of whoever was in the wrong, made an unjust use of her power to agitate the air; and sent out every meteor that could retard or frustrate the intention of a sea voyage. It were to be wished, that all the fabulous parts of ancient stories could be explained like this partiality of *Juno*, which evidently means only a combination of stormy weather unfit for the navigation of the Colchians. They being afraid of the resentment of the goddess, laid aside their project altogether; and settled, in part, among those islanders, whose rectitude and hospitality they had already experienced; and part of them removed to the neighbouring coast of Istria; some of them also settled in Dalmatia, and others repaired to *Epyrus*,* to join the squadron of their countrymen, who had landed there, and, fearing the fury of *Eeta*, had laid aside all thoughts of returning home.

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* Τάχα καὶ τὸ Ἰόνιον μέχρι τῆς Ἰταλίας πλανήεντος. δεικνύται γὰρ τὰ σημεῖα, καὶ περὶ τὰ Κεραυνία ὄρη, καὶ περὶ τὸν Ἀδριατικόν, καὶ ἐν τῷ Ποσειδωνιάτῃ κόλπῳ, καὶ ταῖς πρὸς τῆς Τυρρηνίας ἡσίαις τῆς τῶν Ἀργοναυτῶν πλάνης σημεία. Στραβ. α.

“Perhaps Jason sailed as far as the coasts of Italy, as there are still to be seen the vestiges and marks of the voyage of the Argonauts near the Ceraunian mountains on the shore of the Adriatick, in the bay of *Possidonia*.” The Ceraunian mountains are those of the *Cimara*, so called by corruption, from the hill *Chimæra*, an ancient volcano, from which so many fables took their rise.

The fort of *Apfirtus* was built, by the young prince, on the spot where *Ofero* now stands, on the brink of the strait; hence the inhabitants were called *Apfirtus*, and the contiguous island, where the temple stood, was called *Apfirtis*. There, no doubt, the Colchians began to have possessions, without meeting with any disturbance from the people of *Cberso*, who, on the north side of their city, must also have had possessions near them. It is probable, that, following the destiny of all the other islands, that of *Cberso* and *Ofero* has been sometimes free, and sometimes subject before the Roman conquests. I find no authentick records of its history collected by any author, which perhaps is owing to the ignorance in which the islanders lived for many ages.

Lucia (Lib. i. cap. i. p. 2.) believed, that, without the possession of the Liburnia islands, it would have been impossible for the people of *Adria* to have maintained the dominion of the gulf to which they gave the name, and in another place gives the proofs of this proposition. He fixes the sovereignty of the Tuscans of *Adria* over the islands of the *Quarnaro* about the 359th year of Rome. It seems probable, however, that the Istrians, the Adrians, and the Liburnians were in possession of that sovereignty by turns; and that at last, after the taking of *Medolino* (*Metullium*), or of *Castelnovo* (*Nesætus*) it passed to the Romans.* Near the city of *Ofero* there are still remaining some vestiges of Roman habitations, in the inscriptions, and coins that are frequently dug up: and there are also vestiges of the dominion of the Adrians.

* V. Appian. *Alexand. de Bello Illyr.*

trians in several parts of the coast of Dalmatia, particularly on the island of *Lessa*, where Etruscan vases are often found.

In the times near the ruin of the empire, we find *Cherso* mentioned by *Paulus Diaconus*, as I before took notice of, under the name of *Insula Flanonesis*, and the same author relates the death of *Gallus Cæsar* in these parts, by order of *Constans*, who was then at Milan.†

Attila, who did so much mischief to Italy, carried also devastation and ruin to the island and city of *Osero*, making use of the galleys of *Salona*, for that purpose.

After the decline of the Roman empire, *Cherso* and *Osero* changed masters often; sometimes being annexed to the Greek empire, sometimes to the crown of Hungary, and sometimes subject to the *Bans*, and the kings of the *Slavi*; but without any remarkable events to render it illustrious.

About the middle of the IX century, *Saba*, a captain of the Saracens, plundered the island; and it appears, by the chronicle of *Andrea Dandolo*, that, in 991, it was under the dominion of the Republick of Venice. The Doge *Pietro Orseolo II.* landed there, and received honours as Lord of the island. It seems most reasonable to fix the dedition of *Osero* about this year. I have seen, however, in some Mss. memoirs, that *Osero* gave itself up solemnly to the republick of Venice in the year 1018. Such

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† *Paul. Diac. lib. 12. Hist. misc. Socrat. Hist. Eules. l. 2. c. 27. Niceph. Callist. l. 9. c. 32. Sexamen. l. 4. c. 6.* See Note at page 368.

a difference in opinions is a necessary consequence of the barbarity of those times.

In, or about the year 1130, *Guido Polani*, son of the Doge *Pietro*, was proclaimed count of *Osero* by the people; and a son of the Doge *Vitale Michieli* was elected count not long after the year 1156. From the high rank of these counts, it is natural to conjecture, that the Venetians looked on this kind of sovereignty as a matter of dignity and importance. *Lucio* (l. 4. c. 8.) insinuates, somewhat maliciously, that the Venetians often elected those counts, and not the people of the islands. I can assert, however, as a certain fact, that, from the year 1180 to 1304, the island in question, was possessed, as an hereditary county, by the noble family of *Morofini*, to which it came by *Daria Michieli*, who married *Ruggiero Morofini*, son of *Domenico*, count of *Zara*, and nephew of the Doge.

This *Ruggiero Morofini* had, before his marriage, the investiture of the castle of *Cheffa*, and its district, situated on the island of *Pago*, which was then under the Venetian dominion, the instrument still exists made by the Doge *Sebastiano Ziani* in 1174. In 1202 *Daria Morofini*, of the *Michieli* family, by the grace of God countess of *Osero*, proposed to the people of *Arbe*, to renounce her right to the castle of *Kessa Veterana*, and its dependencies, on condition, among other things, that they should elect her son Robert count of *Arbe*. And in 1203, *Ruggiero*, the husband of *Daria*, is styled, in a ducal letter of the Venetian hero *Enrico Dandolo*, who manifestly acted as having high dominion over the islands, Count of *Osero*, *Absarenfis Comes*.

Marino

Marino Morosini did homage to the Doge *Dandolo* in 1280, and the act is still extant, as well as the others alluded to; and in 1283, the same Count *Marino*, in a writing of settlement with the inhabitants of *Cherso*, is called *count* and *lord* of the district of *Cherso*. This *Marino*, who commanded in the war of *Istria*, with a valour correspondent to the issue of it, was the last hereditary Count of *Osero* and *Cherso*. He died in 1304, or a few months before. The people of *Osero* petitioned the republick to send them a count or governor every two years; and *Andrea Daurio*, or *Doro*, was the first who went there in that character.* Since that period, the island has not suffered any considerable change; only it was greatly molested by the *Uscocchi*, during the war which the Venetians were obliged to carry on against those robbers. And here I cannot help observing, that *M. de la Martiniere* has not performed the part of a faithful historian, in saying, that this island was given to the republick of Venice, only in 1410; about which year, indeed, there are many records which seem to indicate the dedition, but they appear rather to prove only a confirmation or repetition of the respective acts of subjection and dominion, as may be reasonably supposed from what I have already mentioned.

Of the Division of the Island. Its Towns and Villages.

Cherso and *Osero* ought indeed rather to be called two islands united, than one island alone; but the channel of the sea, that divides them, is so very narrow, that it can scarcely be reckoned any separation at all. Some authors, and particularly *Farnabius*,
as

* All the above mentioned documents, and many more, still exist entire in the private and publick archives of the island; some of them are also printed in the work of *Lucio*.

as may be seen above, believed, without the least foundation, that there was a river in the island called *Apfirtus*. And *Cluverius*, imagining there was not only one channel near *Ofero*, but two more, towards the north point, says, that *Cherso* and *Ofero* ought not to be called one island, but properly an aggregate of four islands; and he made out the four parts thus; *Cao*, † *Farefina*, *Cherso*, *Ofero*. Perhaps this very learned man has been deceived by some inexpert navigator; for, in reality, there is only one channel of the sea, namely the *Euripus*, that divides the mountain and the rest of the island from the south part of *Cherso*, and the city of *Ofero*, and they are joined by a bridge, at the city, which bears the same name.

I think I may be permitted to consider both parts divided by the strait, as one island only, on account of the contiguity, and artificial connection, as well as of the uniformity of soil, products, and inhabitants.

Cherso, *Ofero*, *Loffin grande*, *Loffin picciolo*, *Lubenice*, and *Caijole*, and the most considerable places of the island. *Neresine*, *Orlez*, *Urana*, *Cacichi*, *Bellei*, *Ustrine*, and some others, are only poor villages, or miserable hamlets, inhabited by poor unpolished people, without industry, and without bread. I shall speak of the city of *Cherso* in the last place, as most deserving of notice.

Ofero

† Philippi Cluverii *Italia antiqua*. l. i. c. 21. *Quatuor erant insulae Absyrtides, quarum maxima ac media vulgo dicitur Cherso: huic magnitudine proxima ab austro Ofero; reliquae duae ab septentrionalibus Ferosina, & Cas &c.* In Blau's atlas the division of the northern point is also marked, as it is in other maps of less value, which probably have been copied from him.

Osero, which had the names of *Apsyrtium*, *Apsoros*, *Auxerunt*, *Auxeros*, and *Alogpor*, is the only town on the island, as far as I have hitherto seen, where memorials of noble antiquity are actually preserved. It is built in a triangular form, on the point of *Cberso*, which juts into the sea in 32. 21. of longitude, and 44. 54. of latitude, and is bathed by the *Euripus*, which falls very rapidly, and flows up again in a few minutes. The geographer of the *Encyclopædia*, says, "it is a city of Italy situated on an island of the same name, in the Adriatick." The island of *Osero*, however, is not in Italy; neither does the city of *Osero* stand on the island that bears that name. Perhaps the *Chevalier de Faucourt* copied this error, without further examination, from *de la Martinière's* dictionary; and *la Martinière* probably took it from the inaccurate *Magini*.* Father, *Coronelli*, who wanted to do too many things, and therefore did few of them well, has however set this city in its right place; and this is one of the few occasions, in which that good ecclesiastick has chosen the right side, between two contrary opinions. The French geographer, therefore, chose a very improper time to reflect, in severe terms, on Father *Coronelli*, because he had placed *Osero* in its true situation. *Echard* likewise in his geographical dictionary, and his translator *M. Vosgien*, believed that the city of *Osero* stood on the island of that name. And many years before them, *Abraham Berkley*, the commentator of the compend of *Stephanus Byzantinus*, † by an opposite mistake, believed firmly, that

* *Magini* probably took this error from *Domenico Mario Negro*, a geographer of the 15th century, who has it in his VI. *comment geograph.* depending on *Ptolemy*, and not remembering *Mela*.

† V. *Diction. geograph. hist. crit. de la Martinière*, art. *Osero*, & *Echard diction. geograph. ab Anglico idiomate in Gallicum transl. opera D. abb. de Vosgien.*

* *Αἴρος πόλις Ἰλλυρίας. Ηρωδιανὸς οὐδὲν.* Steph. Byzant.

that no such city as *Ofero*, now existed, leaving scarcely room to suppose, that, on the island of the same name, there had been such a city in ancient times.

Ofero at present contains only two hundred and fifty inhabitants; so that the apothecary there is also the advocate, and the physician follows the plough. We were much pleased with the Doctor, who, by cultivating a barren field, was endeavouring to make amends for the mischief his medicines may have done; but we thought that the apothecary might have been satisfied with one hurtful profession.

The air of *Ofero* is quite pestilential in the heat of summer; and the cause is obvious; there being near the walls, several pools of brackish water, which, through the ignorance, negligence, poverty, and small number of the inhabitants, have no outlet, and so become putrified together with the reeds and insects. Some have attributed the unwholesomeness of the air to the vicinity of the mountain which interrupts the free course of the wind; but had they been stopt there for several days by the fury of the wind, they would not have thought so. The causes of the malignancy that infects the atmosphere, are visible in the neighbouring fields, and under the very walls; and it is truly melancholly and painful to see a city well situated, and populous in other times, now reduced to ruin, and almost uninhabitable by an evil that might be easily removed. There are even sufficient funds in the place itself to defray the small charge that would be requisite. Several good simple benefices are annexed to the church of *Ofero*, which hitherto have rarely served

On which Berkley writes the following note:

In ea noster vehementer fallitur quod urbem hoc nomine statuat. — Nisi existimes in isthac insula urbem ejusdem nominis extitisse.

served any other end, than to reward services done to a foreign Court, and perhaps sometimes to the prejudice of the paternal maxims of the Venetian government. It is to be wished that the time were near when the hand of the sovereign shall interfere, and turn these benefices to the relief of the afflicted people, and to the redemption of that unhappy place. Surely the use of these sacred revenues might very laudably be applied to the advantage of the people, to whom, by right they belong. Abuse, and prescription can never render possession legitimate to those who do nothing in behalf of the languishing population of *Osero*, though they enjoy their substance which in happier circumstances were piously offered, and to labouring ministers. The descendants of those good christians now form a squalid and miserable flock, from whom even their own bishops keep at a distance, with non-apostolick example; notwithstanding, it is evident that a little money circulated, with charity and attention, would be sufficient still to free *Osero* from malignant infection, and enable it to acquire fresh vigour, and a population more proportionable to the situation in which it was built with excellent design.

The skeleton of a city, where perhaps there are more ruined and uninhabited houses than inhabitants, had the title of Bishoprick since the time of *Budimiro*, the first Christian king of Dalmatia. Its cathedral is a solid fabrick, and the front of it is not in bad taste; the steeple is also magnificent, and not of bad architecture. The Saracens destroyed and burnt this place about the year 840, and since that time it never recovered itself.

In former times the people of *Osero* had many privileges, as all the other people were used to have, who subjected themselves

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spontaneously

spontaneously to any prince; but they are now almost all lost, through the decay of population. Yet in this place, where every thing that contributes to the pleasure of life is wanting, the archdeacon *Sovich* lives contented with a philosophical mediocrity. He is a man distinguished for true piety, as well as for his profound knowledge of the ancient Illyric tongue, and his cordial hospitality.

Loffin Grande, called *Loffinium* in the records of the middle times, stands on that part of the island which has the name of *Ofero*, towards the southern extremity: it contains about fifteen hundred inhabitants, among whom are many commanders of ships. The houses are sufficiently well built. They distil a quantity of strong liquors, which are little or nothing inferior to the best in Dalmatia.

Loffin Picciolo, a few miles distant, is built on the curvature of a hill which forms a very narrow isthmus. The houses lie towards the south east, around the harbour called the valley of *Augustus*, from an old tradition, that that emperor wintered there with his fleet. They form a very agreeable amphitheatre from the top to the bottom of that half-moon. Every house has its little garden, where the odour and verdure of the orange trees continue the whole year round. This alternation of houses and verdure revived the idea, which, by reading the travels of the celebrated *Andrea Navagero*, in Spain, I had conceived of the Moresque habitations, which, when that gentleman went Ambassador, were not altogether destroyed in that kingdom. The inhabitants of *Loffin Picciolo* amount to about seventeen hundred. They cultivate their little hills with some degree of industry, though in that respect, they are far inferior to the inhabitants

Habitants of Cbersfo. Many of the inhabitants are employed in the fishing, and at sea. The women are extremely robust, and accustomed to carry very heavy burdens on their head, as well up hill as down.

The people of this country are generally quite the contrary of cleanly, and the children particularly are quite loathsome. The small pox did great destruction not long ago, and the marks that remain on a great number of persons, have deformed them in an unusual manner. We thought the inhabitants of *Loffin Picciolo* were no great lovers of strangers; and this is perhaps the effect of a habit of thinking of gain on every occasion. The want of hospitality is the general defect of commercial countries, as on the contrary, the most generous and cordial hospitality is practised by nations deprived of commerce. The island, at this place, is not a mile in breadth. At the east end of it, there is a church of *S. Martino*, which has a good picture on the great altar.

Lubinice and *Caisole*, are at present villages of little consideration, though they were more remarkable in past ages. They have two collegiate churches officiated in the Illyric language. *Caisole* must have been a place of importance in the time of *Tiberius*, as various inscriptions are found there, and some of them illustrious. It is probable there have been many more which are now buried under the rubbish. It would be to little purpose to take notice of the other villages scattered over the island. In these, a poor priest, learned in proportion to his riches, directs the spiritual concerns of a meager, stupid flock of ugly, poor, lazy people. The churches are miserable and ill kept, nor could they well be distinguished from stables, if they had not a kind

of altar, and a wretched belfry. The pastors would more readily inspire fear than devotion, if the good nature of the nation did not secure a stranger who meets them.

Of the City of CHERSO.

The city of *Cherso*, about a hundred and fifty miles distant from Venice, is situated on the western part of the island, long. 32. 25. lat. 45. 8. at the bottom of a large harbour, capable of containing any fleet; it lies at the foot of a chain of hills, which extend along the sea side, forming many sinuosities. The governor resides here; and usually, at least for several years past, the bishop also, who scatters, at a distance, paternal benedictions, and spiritual succours, on his unhappy, sickly, and hungry flock at *Ofero*. The number of inhabitants in the city of *Cherso*, is above three thousand. Its ancient name *Κρεψα*, *Crepſa*, is not found mentioned by any author before Ptolemy; Pliny calls it *Crexa*, or at least the *Crexa* of Pliny is thought to be *Cherso* by many writers; which I shall neither contradict nor affirm.

Among the 3000 inhabitants which it contains, there are about 120 ecclesiasticks, including a covent of friars, and a monastery of nuns; too large a number indeed, in a country where hands are so scarce. Among the houses too, there are an exorbitant number of little churches in the Greek fashion. It were to be wished, that these served at least for lodging to strangers, as they do * in the Archipelago. In that case they would become much more useful than they are at present; as there is no publick place of lodging in the city, and strangers are obliged to disturb some courteous inhabitant, whose civility they can hardly hope
to

* V. Tournefort, *Voyages du Levant*, T. 1. p. 336.

to return. In the whole island there are, I suppose, above two hundred of those chapels, ruinous for the most part, naked, miserable, and officiated rarely or never. Their titular saints are venerated under the most ugly aspects that can be imagined. They are represented either by statues of rough stone, or of wood, worked out of all proportion and human likeness. Yet still the low people pay the greatest devotion to these deformed monstrous figures, and it would be dangerous to endeavour to deprive them of those objects of superstition.

Those who cannot relish this grotesque taste of popular superstition, will be pleased to see a very fine picture in the great altar of the cathedral of *Cberso*. *Andrea Vicentino*, who painted here the miracle of the snow, has made an excellent work, and far superior to his others. The glory, in particular, is highly finished, and full of expression.

The streets of *Cberso* are generally narrow and dirty, which not only does dishonour to a town of some consideration, but is also prejudicial to the inhabitants. Though the air is very good and wholesome, the stench of the common sewers not properly minded, and the introduction of a shallow basin of sea water within the city, called the *Mandrachio*, exhale such fetid vapours, as may easily become pernicious in the hot season. To these two nuisances may be added the two stinking pools called *Razziza* and *Crussia*, kept open by the people, notwithstanding their corruption, because in former times, they were fountains of good water. It would be a great benefit to the city, if the government ordered the *Mandrachio* to be deepened and cleansed; and a trial to be made if the two pools could again be rendered useful; or if not, to be shut up.

In

In so numerous a population, which goes on increasing every year, as well through internal causes, as by the accession of foreigners, invited to live under the mild government of the republick, there is a very small number of beggars. The people of *Cherso* is generally very well clothed, according to the custom of the country, not ragged and nasty as in many of the neighbouring places. Their cloaths are made of a coarse dark coloured cloth, as all the Illyrians use to wear; a custom kept up for many ages, and taken from the Scythians, their ancestors. In the time of *Herodotus*, a part of the Scythians were called *μελανχλαιοι*, that is wearers of black cloaths.

The most dangerous distemper at *Cherso*, is the dysentery, which sometimes makes great havock on the island. In general, however, the people are healthy, and of good constitutions. Probably their assiduity in working, together with the goodness of the air, contributes to maintain them in this state. The children of the low people are employed from their tenderest age, either in cultivating the land, fishing, or attending the cattle. Many are employed in the manufacture of *Rascia*, which is a coarse kind of woollen stuff, and perhaps takes its name from *Rascia*, where it forms a considerable branch of trade. The spirit of economy is one of the principal characters of the mothers of families at *Cherso*; and ladies in the easiest circumstances, do not think it below them to overlook their domestick affairs; their custom is to rise with the day, and they reckon idleness an infamy.

Among the chief families of the island, are those of *Colombis*, *Bocchina*, *Moise*, *de Petris*, *Zambelli*. They are all equally hospitable and courteous, of which, during our stay there, we had sufficient

sufficient proof. These islanders not only preserve the custom of wearing dark coloured cloaths, like their progenitors, but also the ancient modes and social virtues. Kindness to their guests, honesty, and piety formed the character of the Illyrians two thousand years ago, of which the most ancient of the geographer poets has left us his testimony.*

There being no public school at *Cherso*, learning is not much cultivated. Yet there are some learned ecclesiasticks among them; and Dr. *Artico*, a physician, does honour to the city, though not born there, by his learning, as well as by his sincerity and easiness of manners. Perhaps the want of a school contributes in part to maintain the indocility of which that people is accused; and other particular causes, which are foreign to my purpose, concur now and then to enforce it.

The Slavii, or Sclavonian language, which is more widely diffused than any of the other European dialects, is commonly used by the people, and the peasants of the island, and they speak it in a manner not inelegant. Many words and phrases, analogous to the Greek, are met with in common discourse, as *daite mi malo piti*, "give me something to drink", which seems nearly allied to δῶτε μοι μᾶλλον πίνειν; *trapeza*, a table; *mys*, a mouse, *alli*, but; and *siromah*, poor, which seems taken from the greek ἰσρος. They also use the greek τί for interrogation, as *ti smiete?* why do you laugh? And they have articles, increments,

* ———— διοσεβίης δ' αὐτὴς ἀγαθῇ
Καὶ σφοδρὰ δίκους, φασί, καὶ φιλοῦντες. Scymnus Chius, *inter Geograph. min.* Hudson.

ments, the dual number, and other analogies to the greek syntax. *

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* The Slavic nation and language are the most extensive of any in the known world. From Carniola to the farthest confines of the Russian Empire one may travel with this language alone, and for a large breadth of country. All the nations of Scythian original (if the remotest antiquity of origin does not alter the rule) use dialects more or less different, but who all have common roots; and the languages of all the countries over which the descendants of the Scythians spread themselves, carrying war and desolation along with them, and founding new kingdoms, adopted many of their words. Hence we meet with a considerable number of words in the Italian language, of which we know not either a Latin or Greek root, and which have it in some of the Scythian dialects. They have either been brought, in very remote times, by the first inhabitants, or more probably by the Goths, who were *Geti*, before they removed from their native country to the north, from whence they came to us. And as many of their words remained in Italy, so there are also many, more or less altered, in the countries beyond the mountains, which they invaded, and possessed in the low ages. The English, French, Spaniards, Germans, Swedes, and Danes, find traces of the Scythian language much more manifestly in their idioms. That the Germans also were descended from the Scythians was the opinion of the great Leibnitz, who used to call them *vagina gentium*.

The Greek, and the Latin which was derived from it, have both a great number of words which might be demonstratively proved of Scythian original, and not communicated from Greece to the Scythians; and therefore, to endeavour to find out the origins of that language, of which the plainest vestiges are met with in all the living, and dead languages proper to Europe, would be an undertaking full of difficulties, which would require very great study and fatigue, and the result could not be contained in a moderate volume. The emigrations of the Scythians did not begin where history begins, but long before it. The *Veneti*, for example, whose name originally is synonymous to that of *Slavi*, and equivalent to *glorious*, had given the denomination to ancient Venice, long before the new irruptions of the Scythians came to disturb them; and the time of their arrival is not known. It is, however, by many ages, anterior to the settlement of the *Venedi* on the coasts of the ocean, and of the *Windi* on the borders of Liburnia. The Slavic, and Illyric language has two alphabets. The first is called glagolitic,

The number of inhabitants in the island of *Cberſo* has probably been more conſiderable in former times than it is at preſent.

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golic, from the letter G, called *Glagolie*, and in our times, is uſed only in the ſacred books. The Abbe Cemente Count Grubbſch has illuſtrated it, in a treatiſe full of erudition and good criticiſm; and I have availed myſelf of many of the remarks of that learned writer. He makes it the ſame as the Phrygian, and ſupports his opinion by ſeveral good reaſons; the invention is aſcribed by Cicero to Hercules the Egyptian, or, according to Herodotus, to Atlas who was ſtill more ancient. The old Glagolitic had only eighteen elements, like the ancient Phrygian, and the Greek. It probably paſſed from the vaſt extent of Scythia to Phrygia, Greece, and the northern countries; and it is obſervable, that the order of the Glagolitic correſponds almoſt exactly to the Greek; and ſeven of its letters are actually the ſame in figure and ſound as ſeven of the greek alphabet uſed in the moſt ancient times in Greece. Hence it comes to paſs, that the Runic alphabet, brought in all probability, by the *Geti* into the north, agrees in the number and ſound of the ancient Ionian letters; and there are ſeveral greek elements in it, as well as in the Glagolitic. Among others there is the H, not as H , but an aſpiration, as it was reckoned in the Greek provinces in very old times till the xciv olympiad. This letter H with only its primitive tone of aſpiration, together with an ancient Π , which much reſembles the Glagolitic, and poſterior Runic, is ſeen in the celebraed inſcription of the column of *Milos*, which probably is of anterior date to the lx olympiad, preſerved, with many other Greek and Latin monuments, by the noble Venetian Cavalier and Senator *Jacopo Nani*, equally loved and eſteemed for his ſocial virtues, learning, and military ſkill and valour. This promiſcuous ſimilarity of letters, and communion of words and ſyntax between Scythia and Sarmatia, and Denmark and Sweden, the leſſer Aſia, and the Archipelago, inſtead of convincing me that it was derived from greek travellers and traders in remote times, rather makes me ſuſpect, that it paſſed into Greece, as well as many other parts of Europe, by means of the Scythians, who were conſtantly emigrating, invading and ſeizing the ſubſtance and poſſeſſions of others. Finding moreover that many words Latin, Greek, and Italian, are, as it were, iſolated in the reſpective languages to which they belong, and, in the Ruſſian, or ſome other Scythian dialect, are accompanied by all their derivatives, which is a proof of originality and antiquity, I am more and more confirmed in what I juſt now alledged, and my ſuſpicion is changed into opinion;

and

The ruins of habitations scattered over the island evidently prove this. There was a time, however, when the whole island had only

and this is further strengthened by the respectable testimony of those authors, who attribute the origin of the Tuscans, and consequently of those people who descended from them, to emigrated Scythians. Father Perron in 1699 had collected above twelve thousand latin names manifestly derived from the Scito-Celtic, either by way of the Greeks, or through the *Umbri*, or *Ofei*, races of the Celti.

It is a thing worthy of observation, and perhaps singular in its kind, that the denominations of the Glagolitic letters are disposed and chosen in such a manner as to give them a sense, and thereby to include two very important sentiments, *Az, Buk, Vid, Glagoglie, Dobro, Jest, Xiveto, Zelo, Zemglie, &c. I, God, Food, I speak, a good thing, it is, the life of, country, earth, &c.* Those *Nomadi* had need of such an advertisement, to induce them to cultivate the ground.

The Cirilion alphabet has also much of the Greek in it; but the exterior figure of the elements does not always agree with their sound. The Russians make use of it in their books, coins, and in private writings. Many of our Illyrians, especially those of the Greek rite, likewise use it. Several men of learning have wrote concerning the Illyric or Slavic tongue, its origin, extent, perfections, &c. The Raguscan friar *Dolci* derives it at once from the tower of Babel; and so takes the most religious, and shortest way of accounting for it, in his book *De illyricæ linguæ amplitudine et vetustate*, Ven 1754. Conrad Gesner will have it to come from the German tongue, and seems too partial to his own country, in his work *de differentiis linguarum*. The great Leibnitz thought that the many words analogous to the German, which are scattered in the Greek, and even in the Persian, ought to be derived from the *Teutoni*, whom he acknowledges were primitive Scythians, and always in alliance with the *Celti, Galli*, and other Scythic nations. But it may be gathered from what he himself writes, that the *Teutoni* brought those words from the Black Sea; and spread them over the internal parts of the continent, but did not carry them from thence to the Black Sea. Of all the authors who have wrote on this subject, none, in my opinion, has treated it with so much good sense and erudition as the learned Abbè Grubbisch, in his dissertation published at Venice in 1766, by Pasquali, entitled: *Disquisitio in originem & Historiam Alphabeti Slavonici-Glagolitici, vulgo Hieronimiani*. Besides those already mentioned, many others have wrote concerning this matter, especially foreign authors, among whom the following merit particular mention, Herbestein *de rebus Moscoviticis*;

only five thousand inhabitants ; about the year 1640, it had five thousand six hundred ; at present, the population of the island greatly exceeds eight, and perhaps amounts to nine thousand. The augmentation is considerable in proportion to the short term of years which produced it.

Of the nature of the soil of the Island.

The soil of both parts of the island is in general mountainous, and stoney. There are large tracts of ground entirely stoney, barren, and naked to a degree, which helps to form an idea of the eastern deserts, in which all is parched, steril and desolate. It

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Moscoviticis ; Brerewood *de scrutinio religionum* ; Jo. Leonard Frisebius in his dissertations *de Historia linguæ Slavicæ* ; Abr. Frenzelius, who wants to have it derived from the Hebrew ; Edward Barnard, who has wrote a dissertation *de convenientia linguæ Britannicæ cum Slavica*, quoted by Loescher in his *Litteratura Celtica*, which makes a part of the book *Orbis Eruditi Litteratura a charactere Samaritico deducta*. Oxon. 1689. fol. Jo. Erbinus, who in the *Cryptæ Kiowienses*, &c. Jenæ 1675, also thinks it descended from the Hebrew. Kirchmayer, who printed a treatise at Wirtemberg in 1697, *de lingua Slavonica* ; Martin Gujabove de Razize *de utilitate linguæ Slavonicæ* ; and lastly, not to mention many others, Jo. Pet. Kohlio who wrote a treatise concerning the *Storia Letteraria degli Slavi*. Albonaviæ 1729. I have taken the greatest part of these informations from the valuable annotations of the noble and learned Count Trifone Wrachien, consultor of the most Serene government, who very generously contributed to reduce this work into form.

I have found, on a very cursory search, the following words used in our vernacular, and in the Tuscan dialect, which have a near relation to the Russian and Servian ; and am fully persuaded that many thousands of the roots of Italian words might be found in the various dialects actually spoken by the Slavic nations.

From which are derived our vernacular words : *miro*, *trozo*, *sgargajo*, *britola*, *tetta*, *sbiro*, *scorabbiar*, *tochio*, *Polesene*, *banchi*, *polegana*. *gondola svodar*, *mutria* ; and the Tuscan words, *botiglia*, *ceppo*, *nocca*, *muschera*, *stravizzo*, *batocchio*, *caleffe*, *bastardo*, *ghiotto*, *pantofola*, *seste*, *ostaggio*.

is probable, that the Greeks of the low times changed the ancient name of the island into that of *Cberso*, *Χερσος*, induced by the aspect of those tracts of abandoned country. The largest of these deserts is a level surface of hills five miles in length, from *Orletz* to *Vrana*, along the road that leads to *Osero*. The inhabitants call those places *Arabia Petrea*. They furnish, however, excellent feeding for sheep, which crop the grass and sweet herbs that grow between the stones, and thereby become not only excessively fat, but give milk uncommonly rich and of exquisite taste.

The *Arabia Petrea* of *Cberso* produces the same kind of shrubs that are usually found in stoney and mountainous situations. Brushwood and thorns are thick there, but very low, and withered towards the north east, whence the wind blows, with fatal violence, from the mountains of *Morlacchia*. On that side the junipers, and other plants are equally hurt and kept down. Where the plain inclines a little towards the south, the plants are covered from the blasting wind, and those which are only shrubs in the exposed situations, grow there to the height and thickness of trees. The trunk of a juniper is often above a foot in diameter, though growing among stones; other shrubs grow also to a proportionable size. Over the whole extent of the tops of the mountains, which run longitudinally from N. E. to S. E. forming as it were the backbone of the island, there are but very few trees, and those are all bent by the violence of the wind, which blows most in the season when the sap begins to circulate.

*Rara, nec hæc felix, in apertis eminet arvis
Arbor, & in terra est altera forma maris.*

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The top of a *Fillirea* is often six or eight cubits distant from the foot, and not more than two or three above the ground. The sap, interrupted in its natural course by little branches withered by the wind, sends forth a number of small shoots by the sides of those blasted the year before; and these are destined to wither in their turn when the windy season returns. The trees on those heights seem as it were accustomed to these vicissitudes, and maintained by art. The same wind which blows with periodical impetuosity has, without all doubt, co-operated more than any other cause to change the superficies of the tops of the mountains, by pulverising the earth, and carrying it away; at least whatever the heavy rains had left behind, after the extirpation of the ancient woods, which probably covered the hills of the island in more remote ages. *Scymnus Chius*, speaking of the islands of the *Quarnaro*, in the above cited verses, says, "that they had an excellent soil, that neither snow nor ice continued long there, but the rains were frequent and plentiful, and sudden showers sometimes fell, which maintained a fertile freshness and moisture in the ground". It is very probable, that the vapours being intercepted by the woods now rooted out, and the moisture preserved by means of the leaves and roots of the trees, the fields below were always kept cool, and well watered. The island at present suffers from a scarcity of water, at least, for the irrigation of the fields, though there is sufficient plenty in the wells. At a little distance from the city of *Cberso* there is a considerable fountain, which rises at the foot of a hill, and almost immediately loses itself in the sea. It is commonly called the fountain of the Turks, because the merchants of that nation, who come to trade in the island, usually go there to perform their legal ablutions. Five miles from thence there is another called

called the Fountain of St. *Biagio*, but not so considerable as that of the Turks.

The stones with which the higher parts of the island are covered; though they are all of a calcareous substance, have one disadvantageous quality. They are generally equal in hardness to the most compact travertine marble, or the common marble of *Ischia*; but they do not yield much to time, or the action of the meteors; so that, in a reasonable course of years, they cannot be dissolved, or produce an accession of marly earth fit to correct, or meliorate, the stiff reddish iron soil, which is the most common. In some parts, however, there is a better kind of earth, at the foot of the hills, and on the heights also, in some uneven tracts, where the force of the winds is interrupted, and the declivity formed in such a manner as not to carry off all the rain water, but rather to render it beneficial. The part of the island that lies towards the west has greater plenty of trees, and is less exposed to the wind; consequently the land is better, and of greater depth: but they say the air is not very healthful; and probably it is true, on account of some standing pools, and the too great humidity of the ground. And here it is to be remarked, that, commonly, the ignorant think nothing less than a large lake is capable of corrupting the air, and of consequence small pools, or damp fields are little minded: a pernicious prejudice, and of very bad consequence to those who ignorantly neglect the small beginnings of great evils.

Of the Cultivation of the Island.

The hills to the northward are woody, and not well adapted to cultivation. The plains also on that part of the island that
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are fit for the richest products, are often abandoned and uncultivated through the want of a sufficient number of inhabitants. On the other side of the channel of *Ofero*, the hills are less rocky; but the mountain, from the middle upwards, is totally sterile, and produces nothing but wild sage. The perpendicular height of this mountain is not, I believe, above the third part of a mile; but lying isolated, it is quite exposed to the fury of the winds. On the top of it, in former times, a hermit used to dwell; but the hermitage is now deserted, and it is open to view around; being the highest place in the *Quarnaro*. It would not perhaps be in vain to look, on the sides of this mountain, for the vestiges of the ancient temple of Diana, which gave name to the island, and of which *Apolonius* of Rhodes speaks.

The smaller adjacent islands have ordinarily a shallow soil, and are rarely cultivated, or have any particular proprietor. No small part also of the lands of *Cherso* and *Ofero* is in the same condition; and the first occupier enjoys their spontaneous wild fruits. Besides the ground called common, which at present renders nothing at all, though it might become of great value if properly cultivated; even the large possessions which belong to the proprietors of lands, now neglected and barren, might be rendered rich and fertile by a sufficient number of hands, and proper culture.

The valley in which the city of *Cherso* lies, is naturally no better than the rest of the island; and, in all appearance, if it were abandoned, would soon become stoney, barren, and horrid, like the hills which rise on the side of the harbour, at a distance from the habitations, and are equally deprived of the improvements of art, and the favours of nature.

One

One of the most beautiful prospects, that a lover of agriculture can see, is the country that presents itself on entering the bay of *Cherfo* from the sea. My learned friend Mr. Symonds, who had visited all Italy in a most attentive and particular manner, with a view to examine the methods of cultivation in the various provinces, declared that he had not seen any where among us ground managed with a greater degree of industry. The variety of verdure of the olives, vines, and corn fields, which at a distance, form one field pieced out in gradations of different colours, is a delightful spectacle beyond all expression. Between one piece and the other of cultivated land no neglected part is seen. The asperity of the rocks, and the steepness of the hill did not discourage the laudable industry of the inhabitants, who have formed all round their city a garden equally pleasant and useful. This spectacle, which pleases at a distance, surprises when near. It would be well indeed to send to school at *Cherfo* the sons of our lazy and careless peasants, who inhabit the delicious and too rich hills of the Venetian continent. *Cherfo* deserves to be there Athens; for there, example, if nothing else, would show them, that no soil is so stubborn, which industry, diligence, observation, and necessity, the mother of them all, are not capable of cultivating to great advantage. Oxen are not much used for tillage in those parts, as that is almost wholly performed by the laborious and sturdy arms of the men, who are generally well paid for their labour, in proportion to the scarcity of hands. These workmen indeed do a great deal more than ours. They are obliged first of all to clear the spot appointed for culture from the moveable stones, and that is a continual employment, as the cultivation is dilated every day round about *Cherfo*; and these stones they dispose in little walls wherewith they surround the field by way of fence and boundary. Generally these

these artificial fields are of a circular, or elliptical figure, and are called *Coronale* by the islanders; which seems to be the remains of a custom among the first cultivators, taken from the courtyard, as being fertile in its influences in the primitive societies. Sometimes there are points, or large pieces of marble too deeply rooted to be removed without much difficulty, being parts of the strata which compose the solidity of the hill; and yet those they endeavour to overcome by all kinds of contrivances and instruments. It is easy to imagine how much time and labour such preparations of land require. The narrow extent of ground that runs along the sea side in the neighbourhood of the city, needs, without all doubt, much greater labour to be reduced into perfect culture, than would be requisite for four times as much land, and four times better in the Paduan hills, which nevertheless generally yields not a fourth part of the income.

The vines are generally ill supplied with water here, as is the case in all the mountainous parts of the coast, and the boreal blows with violence from the mountains of Morlacchia, which hurts, and sometimes destroys them. To supply the want of the first, as much as possible, and to prevent the bad effects of the last, in the places most exposed, the islanders use to lay a heap of earth about every vine, which is kept very low, and almost totally divested of sprigs every year, and these heaps keep the roots fresh in the dry season, and in the winter, and during the windy season of spring serve to cover the vines entirely. They commonly plant their vines as thick as we do Indian corn, and they use no pales or other support for them; indeed they grow so very low they do not require any. The olives, in former times, were left entirely to themselves, and neither cleared of their superfluous nor decayed branches. The cultivators were

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not easily persuaded to change this careless method; and in this respect all peasants are alike, and obstinately adhere to the customs of their forefathers. The example of a few, however, has now universally convinced those islanders, and taught them that the olive-tree properly pruned, lasts longer, and produces more and better fruit than when left to itself. The art of pruning the olives is perfectly understood there, while, to our great shame, it is still quite unknown among us. The ground occupied by the vines is generally set apart wholly for them; though sometimes there are olives planted between the rows of vines. It is very rare to see, in the same field, vines, olives, and corn growing together as is frequently the case in our hills, through the ignorance of the cultivators. In the *Coronale* destined for olives, no corn is sown, and, on the other hand, the manner in which they manage the vines naturally keeps them from hurting the corn, or from being hurt by it. It is doubtless a very unreasonable and prejudicial custom established almost without a possibility of being eradicated in our part of Italy, to keep the vines fastened to large trees full of branches, and in the same field to have corn or other grain growing, for the corn and vines are both greatly injured by the roots, branches, shade and other influences of the trees.

As the vines are kept very low in *Cherso*, so the olives are not suffered to grow high, and in some places these two species seem to be planted too near each other.

The woods situated on the lands of particular proprietors are ill kept, and on the common lands no such thing now exists, they being quite destroyed by the barbarous avarice of the natives. In almost all the populous provinces of Europe we find the same inconvenience:

inconvenience took its rise, from the same defect in the partition of lands. And hence some useful regulations have been made in England concerning commons. In Switzerland also it has been demonstratively proved, that the institution of commons is pernicious, as it tends to exhaust and ruin the ground, to diminish the rents, and to lessen industry. Notwithstanding, however, the great abuses in this particular, almost all over the island of *Cberso*, there are still some tracts, where the woods, being left to themselves, are furnished with large trees,; as near the lake of *Jesero*, and in the neighbourhood of the hamlets of *Bellei* and *Cacichi*. There, on the left side of the road which leads to *Osero*, you see a pleasant little valley almost surrounded by a wood of old elms, that form a dark and cool shade. This is one of the most delicious spots that can be seen.

Since it has been proved, by several partial facts, that the soil of this island is extremely suitable to the production of large trees, when suffered to grow, and that the most naked and stoney parts would well reward the industry of those who planted them, it appears to be an object worthy of the attention of government, to prescribe proper and efficacious means for renewing and preserving both private and common woods. This part of agriculture is more necessary to be well understood, and kept in good order than any other; because one error in it may be the cause of fatal consequences for many years, nay ages, and sometimes for ever without remedy. The scarcity of wood for building, the sterility, and ruins of the mountains; the alterations in the system of the meteors; the too frequent and dreadful inundations, with all their fatal effects; and many other mischiefs, are owing to the ill management, rooting out, and improper way of cutting of the wood.

Concerning the Products of the Island.

The oil of *Cberfo*, which is reckoned the best in quality of any made in the Venetian state, is the most valuable product of the island. According to the calculations of the islanders themselves, they make from three thousand to three thousand five hundred barrels a year. The price of oil is generally four sequins a barrel; in former times it was much cheaper. Though the *Cherfines* do not exactly follow the Tuscan method of preparing the olives, they come at least very near it. Their oil would be as thick and disagreeable to the taste as that usually made on our continent, if, according to the same slovenly method, they let the olives ferment and rot without stirring them. They are careful to avoid this defect, as well as the stupid and absurd method of gathering them practised in many other places. In the kingdom of Naples, and in several other parts of Italy, they use to beat the branches with long poles, in order to make the fruit fall. This foolish method, besides hurting the plants, and spoiling many branches that would bear the year following, makes the ripe and unripe fruit fall indiscriminately, and bruises a great deal of both kinds, whereby they become rancid in the heaps, and give an ill flavoured oil.

The greatest part of this oil is exported out of the island; but almost all the value is required for the purchase of corn, of which the inhabitants do not raise enough to maintain them four months of the year. They used to be supplied with this article by the Turkish merchants, at a reasonable price in times of peace; but since the war with Russia they have been obliged to make their provision elsewhere with much greater charge.

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The wine, of which they make only a few hundred barrels for exportation, though the product might easily be much increased, is not of a perfect quality in proportion to the oil. This is probably owing to the little knowledge and care they have in gathering and pressing the grapes, and in fermenting the wine. I have tasted very good wine in private houses; and no doubt great improvements might be made, if the people were more attentive and better instructed in this article. Honey, and wax might be expected to form rich products, and easily procured in an island where the hills are for the most part covered with sweet herbs; yet they are very inconsiderable, and more neglected than they were in former times. Those few, who keep hives, follow the cruel and inconsiderate method of killing the bees every year, crushing them together with their labours; a brutal custom, by which not only the bees are lost, but the fine quality of the honey is also spoilt; which, if properly managed, would be nothing inferior to that of the neighbouring city of *Fiume*, and would make an useful branch of trade.

The figs are excellent, but no great quantity is exported; perhaps the yearly value that comes in for this article does not amount to four hundred sequins.

The finer fruits for the table, such as peaches, pears, apricots, and the like, are rarely cultivated in the island; consequently they are scarce, and but indifferently good. The Cherifines do great injustice to their own industry, as well as to the happiness of their climate, by neglecting them. It should seem, that the mild temperature of the air, under which they live, ought to encourage them to have their gardens well provided with the most delicate fruits. Besides the softness of the climate,
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there is another circumstance, which might induce them to try this kind of cultivation, and that is, the facility of transporting their fruit to Venice. The passage requires no long time, and frequently may be made in fewer hours than must be employed in transporting the Paduan or Vicantine fruit to the capital. Besides, the culture of fruit trees requires no very great attention; which is an advantage that ought also to be calculated in a country, where the assiduous labours of the peasants are constantly needful for the corn, vines, and olives, the principal, and sure products.

The Maiz, or Indian corn, is not much cultivated, nor would it turn to account in this island, as it requires rich and moist soil, resembling its native land of America. The people of *Cherso* are judicious enough not to endeavour to force this grain to grow on the parched sides of their hills; and it would be well if our mountaineers followed their example.

Pulse, and garden herbs, thrive very well, but the inhabitants think little about garden stuff; their whole attention being taken up about the more important improvements of their vine and olive yards.

I believe the culture of potatoes might prove very useful to this country, as well as to several others in the neighbourhood; though perhaps they have been recommended with too much solemnity, for our rich and fertile lands. With us they may be of advantage in preparing the land, but in those mountainous countries they might serve, as in Scotland, for food to the inhabitants. They would be very convenient for hilly countries which produce little corn: and the common people of *Cherso* would

would gladly make use of them, as they now eat, I know not whether through depravation of taste, or by custom, which perhaps took its rise from some former famine, small loaves made of roots of the *Arus*, macerated with a little water, and reduced to a paste exactly in the same manner as is used in some parts of Sweden.* These loaves have a kind of sweetish taste, but too herbacious. They cannot naturally be very wholesome, and the careless manner in which they are baked must contribute much to preserve the caustick quality of the *Arus*.

As the culture of potatoes, and other farinaceous roots in this island would prove a very opportune relief to the poor, in consequence of the scarcity of corn; so the introduction of chestnuts in the rocky and naked parts, would be a most advantageous improvement, and in the course of a few years would show its good effects. Besides the great yearly benefit of a fruit reducible to bread, and which requires very little care, the inhabitants might, in the course of time, recover some good land on the sides of the hills by the defence the chestnut-trees would give it from the wind, rain, and scorching heat of the sun, and of course the aridity of the country would be lessened. In the hills of Bologna, in many parts of Tuscany, the Modanese, and in other provinces out of Italy, the chestnuts are actually the manna of the mountaineers, who feed on them almost all the year round, and are well satisfied, healthy, and robust to an extraordinary degree. Nor can it reasonably be alledged that the chestnut tree would not grow on the island of *Cberso*, as might be said of some other plants, and exotick methods of cultivation; for that tree is very easily reared, and much in use among the Austrian subjects on the neighbouring continent. This supposition, that

* V. Linnæi iter Oelandicum, & Gothlandicum.

that trees and seeds are exclusively adapted to those countries where they more frequently grow, is a mere prejudice. We see every day that many Asiatic, African, and American plants grow, thrive and bear fruit in the gardens of Europe as if in their native soil. It is indeed our fault, that, in the present age, when botany is so well understood and cultivated, that the curious, instead of the useful plants, should be brought from those remote climates. The ancients were more judicious in this respect than us; for they were at pains to introduce into Italy many fruit trees of foreign growth, which now commonly pass for ours originally. *Lucullus* was the first who brought the cherry-tree to Rome, from *Cerasunte*, a city of *Pontus*; and not long before the elder *Pliny's* time, peaches had been brought to *Persia*; pears are of Egyptian, or Syrian origin; and chestnuts, nuts and sorbs came from Asia. We see daily whole fields covered with American maize; and many other exotic grains begin to be cultivated in the gardens of the curious beyond the mountains, which will afterwards pass into the corn fields, and become common. *Mr. Graffenried*, a Swiss gentleman, has naturalized, in his lands of *Worb*, a great number of useful American plants, which now require no more particular attention, but grow just as if they were in their native country. If the inhabitants of *Cberso* should resolve to make plantations of chestnut trees, it would be of great service to graft them on *Carpini*, as they would come sooner to maturity, and with less trouble.

To study to render useful any tract of land, which now is altogether unfruitful, cannot be reckoned quite labour in vain; and it certainly would be a wise measure to give encouragements and premiums to those who succeeded in such trials. The government

vernment might do this without any charge to the revenue; the part of the tithes, * which ought to be distributed among the poor, would be sufficient to supply all the needful premiums. Though the first trials might possibly produce no great effects, yet every little improvement would be a real advantage in a country, where eighteen hundred acres, at only twelve miles distance from the city, do not actually yield thirty pounds sterling to the proprietor, who is Signor Jacopo Colombis, a hospitable gentleman, and a promoter of good cultivation. Perhaps also, by these means, the population would encrease considerably, and if some other improvements concurred to give a more speedy profit, the happiness and riches of the island might be formed in a short term of years. † But let us leave projects, which, however reasonable and easy, are apt to meet with nothing but ridicule, and return to the actual products of *Cherso*.

Firewood is also a considerable article of active trade, especially in the northern part of the island which we had not time to visit. This product is valuable and important on account of the great consumption in the metropolis; but there is not now that plenty of wood there was in former times, a great part of the hills being quite bare. It will still go on diminishing, if the

H h h

wisdom

* The tithes of the island of *Cherso* and *Osero* are distributed in four parts. One part is assigned to the poor, and is administered by managers appointed by the bishop; the second is allotted to the church for reparations, ornaments, &c. The third belongs to the Canons of *Cherso* and *Osero*, *Lubenice*, and *Gaisole*; and the fourth is assigned to the bishop over all the diocese. In the two *Lossins* the portion of the poor was long ago given to the parish priest and curates, who have no certain funds for their maintenance.

† The transportation of idle and vicious people, of which there is always plenty in the great cities, has contributed not a little towards the population of America.

wisdom of government does not think of some new regulations to prevent the abuse of former laws. The trees commonly used for fire wood, are the common and ever green oak, the elm and ash, besides wild vines, the *arbutus*, *philerea*, juniper, &c.

The white mulberry tree has hitherto been almost quite neglected, though there is reason to hope, that there will soon be some considerable plantations made. Several proprietors of lands begin now to open their eyes, and think seriously of turning a part of them to advantage, in such a manner, as requires the least number of cultivators, in order to render the produce of their possessions consistent with the scarcity of labourers, which now obliges them to leave a great deal uncultivated and barren. The writers on agriculture of our days, seldom take notice of this material circumstance, being generally more eager in recommending specious projects, whose merit often lies more in appearance than reality, and therefore seldom prove of general use.

The various kinds of shrubs and plants for dying, which grow in great plenty on the island, might easily be rendered more useful than they are at present. They might in some measure supply the place of wine, which is neither very plentiful nor good, and often not to be had by the poor labouring men, as they do in the neighbouring province of Carniola. The liquor they make there is wholesome and agreeable to the taste, though nothing else but an infusion of the berries of the red juniper, which also grows in great plenty in the island of *Cherso*. The preparation is extremely simple. They fill a wooden vessel set apart for that purpose half full of berries, and pour a sufficient quantity of water on them; then closing the vessel, they let the infusion

fusion ferment two or three weeks, according to the season, and then broach it for daily use. As they might imitate the Carnians in this piece of economy; so they might as easily avail themselves of the great quantity of the fruit of the *arbuti* to make brandy, as the inhabitants of the isle of *Andros* in the Archipelago do. * But the people of the town, and in the neighbourhood of it, are too few for the necessary work, and those within the country are too stupid, and indolent to attempt any thing new, unless forced to it by extreme necessity. Therefore the red juniper berries are left to fall uselessly, nor do they gather the *arbuti*, nor the grapes of the *lambrus*, which grow in great plenty, and are suffered to rot on the trees, though, with a very little industry, they would afford an excellent liquor, as they do in several parts of the continent. The *lambrus* of *Cberso* is frequently as thick at the root, as the old vines with us.

Among the plants, that might be employed for dying, the only one commonly made use of is the *lentiscus*, which grows in great plenty, particularly about *Oféro*. They use the leaves of this tree carelessly bruised, to give a kind of coffee colour to their nets. For that purpose, they lay the nets in infusion together with the pounded leaves, and leave them to ferment in the water till the colour is given. The *rubia* is entirely neglected; they even do not know it, though common enough in the island. It would be well if the inhabitants could be persuaded to employ their women and children to gather the seeds of this plant, and, by that means, to cultivate and propagate it, as the experiments related by M. d'Ambournay of Roan prove, that it may be more advantageously used fresh, than when dried.

H h h 2

Of

* V. Tournefort, *Voyages du Levant*.

Of Shrubs and Herbs useful, or hurtful.

Our stay in the island was not long enough ; and our mountain and littoral journies were rather too quick to give time for our learned companion, the professor of Botany, to make a good collection of plants. At any rate, I should think this little work wanted a material advantage, if I neglected to insert his annotations. They will certainly be very acceptable to the lovers of that part of natural history. * Some of them may be an object of

“ * *Cynoglossum Lusitanicum. Planta pedalis. Radix lignosa, biennis. Folia ovato-lanceolata, integerrima, villosa, ad basim ciliata. Caules læviter striati, scabri. Flores parvi, foliis oppositi, cæruleo albicantes. Semina parva, muricata.*
 “ *Caucalis grandiflora. Involucris universalis foliola duo reliquis majora. Linnaeus unum ponit.*

“ *Ornithopus Scorpioides. Scorpiurus muricata. Coronilla Cretica. Flores coloris varii, nonnulli varii, reliqui albi. Legumina non semper quina. Petioli a basi ad dimidium usque lanuginosi essentiali speciei characterem constituunt.*

“ *Aparine, semine Coriandri saccharati. ☞ Similis speciei Siculae, de qua Linnaeus inter Galia nullam mentionem facit.*

“ *Echium vulgare. Althæa Cannabina. Geranium Ciconicum. Lamium purpureum. Agrimonia Eupatoria.*

“ *Gladiolus communis. Hyoseris Hedypnois. Brassica Eruca. Erysimum Alliaria. Orobanche, flore cæruleo. Solidago virga aurea. Punica Granatum, sponte. Tamus communis. Dipsacus Fullonum. Bupthalmium Spinosum. Lithospermum officinale. Delphinium Consolida. Convolvulus Althæoides. Verbascum Phœnicium. Color florum sæpe obscure purpureus. Salvia officinalis. Laurus nobilis. Euphorbia Amigdaloides. Myrsinites. Spinosa. Sorbus domestica, conspicua quandoque, insignisque proceritatis occurrit.*

“ *Vitex Agnus castus, ibi arboream magnitudinem acquirit. Caulis, scilicet Truncus diametrum habet quandoque pedalem.*

“ *Phyllirea latifolia, arbor facta. Truncus sæpe diametrum habet pedali majorem.*

“ *Juniperus communis, eadem magnitudine insignis quam frequentissime.*

“ *Vitis Labrusca. Sesquipedalem diametrum non raro acquirit, pone lacum vulgo di. Jeseo.*

Onosma

of mere curiosity; and the people of *Cberso* may draw advantage by the use, or culture of some others. I shall say something

" *Onosma Echioides*. Radix lignosa, perennis, digiti crassitie, intus alba, extra obscure purpurea. Caulis pedalis a basi ramosissimus, ramis purpurascens, hispidis. Folia radicalia, lineari-lanceolata, conferta, caulina alterna lanceolata, subsinuata, sessilia, hispida. Bractæe hispidae, & Calices. Flores albi, conferti, nuntantes. Antheræ inter se convexæ, uti in *Cerithe*, cum qua genere naturali conjungenda est. habitat saxa sterilia.

" *Thlaspi saxatile*. *Onosma orientalis*. Prope *Apsorum*.

" *Cyperus sempiternus*. *Prenanthes purpurea*. *Ruta graveolens*. *Lotus Dorichnium*. *Linum alpinum*. Flores maximi respectu plantæ; Caules spithamei, procumbentes.

" *Anethum fœniculum*. *Hedysarum saxatile*. *Anthoxanthum odoratum*.

" *Asphodelus marinus*. *Alyssum montanum*. *Beta maritima*. *Arethusa Neapolitana*.  Hæc circa *Neapolim* tantum, nec alibi in *Italia*.

" *Mirtus communis*; frequentissimis in collibus.

" *Juniperus*, fructu rubro, magnitudine conspicuo.

" *Cistus Salvi-folius*. Flores modo albi, modo purpurei. Petali decidui. Petioli florum alati.

" *Arbutus Unedo*, cum qua pulcherrimum nemus constituunt.

" *Laurus nobilis*, *Phyllirea latifolia*, *Viburnum Tinus*, *Pistacia Lentiscus*, *Erica arborea*, flore albo, *Ilex minor*, *Coronilla Emerus*, ec. *Staphylæa Europæa*. *Prasium majus*. *Glycyrrhiza glabra*. *Lotus hirsutus*. Caules subprocumbentes, hirsuti. Flores in capitulum. Calices hirsuti, purpurascens. Corollæ vexillum supra rubrum.

" *Solanum dulcamara*. *Pistacia Narbonensis*. Petioli purpurei, foliola ovata, integerrima, puncto acuto ad apicem glabro, superne viridi, splendentia.

" *Lathyrus Nissolia*. Folia linearia, acuta, pedunculis longiora. Stipulæ brevissimæ, subulatæ. Pedunculi solitarii, vel biflori. Corolla purpurea, carina alba. Caulis simplex angulatus.

" *Tamarix Gallica*. *Bupleurum rotundifolium*. *Chænopodium vulvaria*. *Gallium*. Foliis jenis, linearibus, acutis; pedunculis bifloris, caule procumbente. Caulis duo pollicares, annui, tenuissimi, dichotomi. Foliola sena linearia, lineas duas longa, rigidiuscula. Flores minimi albi.

" *Lapsana Zacynta*. *Ægilops incurvata*. *Teucrium*.

" *Rubia peregrina*. *Cypressus pumila*.

" *Passerina*

thing concerning several plants of the last class, adhering, by that means, to my principal scope, which is to be useful, as much as lies in my power, to those inhabitants by whom I have been so well received and treated.

The common odoriferous *Salvia* reigns almost to the exclusion of every other plant in several tracts of *Cherso* and *Osero*. The medicinal virtues of this plant are universally known, and the learned as well as unlearned physicians, know it to be cephalick, alexiterick and strengthening. The Chinese, who sell their tea to the Europeans, wonder how there can be such a demand for that herb, which, in their opinion, is of much less worth than the *Salvia*, of which there is such abundance in Europe. The Hollanders buy up, at a low rate, as much *Salvia* as they can find on the coasts of the Mediterranean, particularly in Provence, and sell, or give it in exchange to the Chinese, from whom, they say, they receive double, and sometimes triple the quantity of tea. Why might not we also endeavour to traffick for our *salvia* with the few Hollanders who bring us their bad salted or smoked fish? The island of *Cherso* and *Osero*, together with those in that neighbourhood, would furnish thousands of butts.

The *lentiscus* grows spontaneously, in great plenty in the neighbourhood of the city of *Osero*. This shrub, which never loses its leaves, might perhaps become of some advantage to the islanders, and deserves to be cultivated, at least for a trial. The island of *Scio* in the Archipelago, derives the principal article of trade

“ *Passerina hirsuta*. *Asperago procumbens*.

“ *Alissum Gemonense*.

trade from it. The mastich, which the Sciots gather from it, is sold very dear at Constantinople, and in many parts of Asia. If it could not be gathered three times a year, on the island of *Cherso*, as in the Archipelago, perhaps it might be done once or twice; the ground is of little value there, and the culture of the plant requires very little time, and only a little simple attention. The mastich issues from the incisions made in the *lentiscus* in the month of July, and falls on the ground, or is gathered in drops before it falls. The Sciots are careful to keep the ground about the tree very clean, that the purity of the gum may not be soiled when it falls. In the islands of the Archipelago, they also make oil of the seeds of this shrub, and the Turks prefer it to the oil of olives, both as a medicine and for burning. The physicians attribute to it an astringent quality, and use it in procidences of the *rectum* and matrix. A decoction of the wood of the *lentiscus* is held in Germany for a wonderful specifick against the gout; and as a tonick and dulcifier.

Not only the *lentiscus*, but various species of *Cistus*, generally known by the name of *Salvia*, are found in plenty in the woods of *Cherso*. Among these probably the ladaniferous species is also to be found; but the Chersines have not yet exercised their industry to extract the ladanum. In the Greek islands, the priests use to collect it about the beginning of August; and Tournefort, in his voyages, has given us the description of the method they use. It is exceedingly simple. They fasten thongs of leather to the ends of long poles; and with these they gently beat the tops of the *cisti*; the resinous matter sticks to the leather, and they pull it off when dry. In Spain, the peasants extract the ladanum from the *cisti* by decoction, but it is not esteemed. In the Levant much more use is made of this drug
than:

than among us. The *Agnus castus*, *Ornithopus*, *Cynoglossum*, *Lupulus*, *Smilax Spinoza*, and many other medicinal plants grow there of their own accord; but nature has also planted the *Solanum*, *Hyoscyamus*, and *Euphorbia* particularly, in such abundance, that, in some places, hardly any other herbs are to be seen. Of this last species of hurtful plants, the peasants of the island have courage to make use of the decoction as a febrifuge; though, probably, sooner or later they feel the bad effects of it.

Animals.

Sheep are the most numerous species of quadrupeds on the island; oxen, beasts of burden, and hogs, being in no great number. These may amount to seventy thousand,* and the proprietors pay only half a sol of capitation for them. Yet the charges are so great, together with the thefts of the shepherds, and the mortality, that, on an average the proprietors do not clear a fixpence a head yearly, including the product of the wool and lambs. The wool of *Cherso* is not of good quality, and therefore the ordinary price does not exceed three-pence to four-pence a pound. The sheep are not of the best breed, and perhaps that circumstance contributes towards the badness of the wool, besides the bad management the flocks are under. They live constantly in the open air, under a climate rather irregular, and without any kind of shelter to retire to, either in rain, snow, or other stormy weather. The rocky and wild places, where

* About the middle of the last century, P. d'Avity, an accurate geographer for his time, wrote that there were a hundred and fifty thousand sheep on the island of *Cherso* and *Ofero*. No doubt the increasing cultivation of the land has hurt the propagation of flocks, by turning a great number of the inhabitants from a pastoral life.

where they feed, are full of thorny plants, which tear away a part of their wool. The dispersed and careless way in which they are kept, causes many lambs to perish, and even sheep also; which might be saved by more careful management. The annual loss amounts generally to four thousand by mortality, without any epidemical distemper. Falls from steep rocks, the snow under which they are sometimes buried many days, and the dogs that pursue them, are the principal causes of so considerable a loss. The islanders, however, are not altogether to blame in exposing themselves voluntarily to this loss, being obliged to do so, in order to avoid something worse. The Morlack robbers, and particularly those of the Istrian colonies, * *Castelnovo*, *Carnizza*, *Medolino*, and *Altura*, too often land on the island, and carry off all the animals of every species that they can collect together, and that frequently before the eyes of the keepers themselves, who are not in a condition to oppose armed plunderers. If the flocks were united in large numbers together, or housed, these robberies, which cannot be prevented on an island open on all sides, would be much more detrimental. The scarcity of population does not admit of a better system; and hence every proprietor of flocks, or several together, entrust them to a shepherd, each marking his own sheep by different cuts in their ears.

Poultry and all domestick fowls would thrive exceeding well, but corn being scarce, they cost too dear, and therefore few are
 I i i kept.

* *Castelnovo* is the ancient *Nesactium* at the mouths of the *Arfia*. Livy speaks of the siege and destruction of that ancient city, in the XLI book. It was one of the principal cities of Istria; and if we believe Appian, *Metulium* was the capital of Istria, which some think corresponds to *Medolino*, at this day a very wretched village, though deliciously situated, and inhabited by a poor, idle, vicious people. There remains no vestige of ancient grandeur, if the ancient Istrians had any thing that could be called grand.

kept. A capon costs usually eight or ten Venetian livres. The scarcity of domestick fowls is, however, compensated by a great abundance of wild fowl and game, such as partridges, turtle doves, hares, rabbits, &c. The inhabitants use no nets, nor snares in order to catch their game with little trouble. Polecats are very common, and their skins are carefully collected and sent to Venice, where they have the art of dressing them so as to resemble the fur of the marten. These good islanders persuade themselves, that no species of poisonous animals can live on their island, and the common people do not fail to attribute this circumstance to a miracle of St. Gaudentius; a pious credulity, to which father Farlati, in his *Illirico Sacro*, gives his assent.* We however, saw vipers there, of which the bite could not be very salutary. Many creditable persons also assured us, that serpents of an enormous size are sometimes met with, some of which are a foot in circumference, and three or four yards long; others more rarely seen, are two feet round, and less than two yards long; which description agrees very well with a species of serpents very frequently seen on the coast of Guinea. We however saw none of those monstrous serpents, either alive or dead.

* Several other islands boast the same privilege, among which are Candia, Malta, and Ireland. Of this last island Adrianus Junius (Jonque) a native of Horn in Holland, and a writer, traveller, and physician of the sixteenth century, sung thus:

*Illa ego sum Graiis olim glacialis Ierne
 Dicta, & Jasoniæ puppis bene cognita nautis,
 Cui Deus, et melior rerum nascentium origo
 Jus commune dedit cum Creta altrice tonantis
 Noxia ne nostris diffundant sibila in oris
 Terrificæ creti tabo Phorcynidos angues;
 Et forte illati compressis faucibus atris
 Viroso pariter vitam cum sanguine ponunt.*

dead. Those who assured us of their existence, added that they were amphibious, and usually inhabited unfrequented bays.

Our time did not permit us to observe the variety of birds and insects.

Of the Fishing.

About three hundred persons of the city of *Cherso*, and a much greater number in the other places of the island are employed in fishing. The sea thereabouts is plentifully stored with tunny fish, *dentali*, mackrel, and an infinite quantity of sardines, which are salted, and distributed in barrels all over the state, forming a very considerable branch of inland trade. The product of this fishing, and of that of the tunny, is not easily calculated; as it depends not only on the more or less numerous passage of the fishes, but also on the number of fishermen who concur for the season. There are six principal posts round the island of *Cherso*, for catching the tunny fish, called by the islanders *Tonnere*. The Sardines also have their constant stations in their passage, one of which is the little island of *Sansego*, which we shall have occasion to mention again. These voyages of the fishes deserve to be observed and examined with particular attention, having something still more surprising in them than the passages of the quails, swallows, &c. The inhabitants of the sea have some of their customs analogous to those of the terrestrial animals, and the emigrations and pilgrimages which succeed from year to year under the waters, must have something very curious in them. The regularity, and the mutability of these voyages appear to me so much the more worthy of observation, as hitherto they have been but little observed in our seas, though the small distance of one shore from the other, and the frequency

of islands invite to examine the works of nature, which in the subaqueous kingdom, has scattered wonders far more amazing relatively to us, than in the terrestrial. Nor ought this examination to be esteemed an object of mere curiosity, as many considerable and essential advantages to commerce might result from it; for example, to change a branch of passive into active trade, and a hurtful and expensive article into a lucrative and useful one.

The immense quantity of *mollia*, and their almost infinite variety; the multiplicity of aquatick insects: the very considerable number of the stoney labours of various *polypi*: the many species of fishes, and *testacei*, which require to be examined with leisure and diligence, would form a long, assiduous, and no less useful than delightful occupation to a person travelling from rock to rock, and led by genius and eagerness to acquire new intelligence in natural history.* The museums of the curious in this country,

* Few authors have hitherto wrote concerning the natural history of the Adriatick; and the worst is, that not even all those have succeeded well. *Zanichelli*, a Venetian apothecary, published a large volume in folio, *dalle piante del Lido Veneto*, and filled it with figures which are good for nothing. Count *Ginanni* of Ravenna, left two volumes concerning the botanicaal and animal natural history of our sea, and his book, though it had but little merit, is one of the best we have. The figures, of which it has plenty, are very ill executed. Doctor *Vianelli*, of *Chiozza*, and Signor *Grifolini*, have wrote upon the phosporic points, which are seen swimming in the salt water, especially in summer, and they both thought, with very plausible reasons, that every sparkling point was a microscopic *Scolopendra*. M. Martin Brunnich, publick professor of economy and natural history at Copenhagen, illustrious for his *Ornitologia*, and his *Entomologia Borealis* published when he was very young, wrote a treatise upon the fishes, observed by him in a voyage made along the coasts of the Marca, Dalmatia, and Istria, classing them according to the method of *Linnaeus*. He also made repeated and exact observations,

country, who have purchased exotick shells, *crustaceæ* and *librofiti* at high prices, are totally unprovided with those of our own sea; a circumstance which not only does no honour to them, but is also an injustice to the country, which produces as great abundance of natural curiosities as any other, and ought certainly to be preferred by those who make such collections. The series alone of petrescent plants, the wonderful labours of various species of insects, which abound in our sea, would afford matter for interesting observations, and noble collections, qualified to do us honour, when seen by learned travellers, who now look upon us with contempt.

Besides the sea fishing, which is an article of trade, the inhabitants of *Cherso* have also plenty of fresh water fish, which might become an article both of pleasure and profit. They have no river, however, as has been wrote by some who trusted to unexact informations, or to the exterior appearance of the valley formed by the rain water at *Caisole*, near the northern point of the island: but they have a lake in which there are pikes, of above thirty pounds weight, and tenches, eels, and other fresh water fish of exquisite taste.

Of the Lake of JESERO.

Among the natural curiosities of *Cherso*, the first place is due to the lake called of *Jesero*, a corruption of *Ozero*, or *Ezero*, analogous

observations, in my company, upon the *phosphori* of the Lagunes, and canals of Venice; but has not treated of them in the works last mentioned, probably reserving them for another occasion, as I do likewise. The celebrated Doctor *Bianchi* of Rimini, has given two editions of his valuable book *de Conchis minus notis*, disclosing in part the riches of our sands, and making various and interesting researches concerning the flux and reflux of the Adriatick. One of the illustrators of the natural history of our sea, was the celebrated *Vitaliano Donati* of Padua, of whom I shall say something in a subsequent note.

analogous to the word *Jezoro*, still used by the Poles, to express a lake, or standing pool of water. It requires no superior knowledge to judge of the beauty of this lake, as it presents a most agreeable spectacle to the unlearned as well as the learned. It is surrounded by a chain of little hills for the most part of easy ascent, though in some places steep; its circumference seems to be four or five miles, though some call it seven. All that tract of country is wild and uninhabited. Its bed, as far as can be seen, though the water near the sides, seems to be hollowed out of the hard stone. Being situated at the foot of wild hills, not well covered with wood, and having too shallow and too weak a soil to resist the force of the rains, a quantity of earth and other matter has been carried down towards the middle of the lake, sufficient to nourish various plants. Its depth is from twelve to fourteen feet; in some places it is more, and the inhabitants say, perhaps exaggerating, that in some places its depth cannot be measured. The figure of this beautiful lake is near elliptical, only in some parts it is altered by small sinuosities, which follow the winding of the roots of the hills.

In former times, there stood a castle on the brink of the lake, but, now, the principal walls and some part of the underbuilding only remain. Below these ruins there is a kind of pier to which a boat is made fast, that has served for common use, heaven knows how many years. It is leaky, rotten, and takes in water on all sides; so there is need of constant attention to throw out the water to prevent sinking. Perhaps there is not a bark in the whole world which more resembles that of Charon, which has been passing and repassing the Stygian lake from the first mythological times to those of the modern *Pastor-Arcadi*. I went on board this antique vessel, together with a gentleman
of

of the country, who was so kind to accompany us in our excursions, and a man to row, and to throw out the water: and truly on our stepping in

— *gemit sub pondere cymba*

Sutis, & multam accepit rimosa paludem. Virg. Lib. VI.

This would be a delicious habitation for a philosopher divested of the passions that are necessary to live in society! what peace, and undisturbed mediocrity might he enjoy! or how charming a retirement would it be to the melancholly man, who would willingly bury himself there, to be out of the way of creating gloominess in others; or of daily increasing his own. From the tops of the hills the sea is discovered all round, and all the neighbouring islands. The barren wildness of the situation might easily be adorned, and rendered fertile by art, if the intention was to restore it to its former natural state. On the north side, there is a division between the hills, probably made by the rain waters; and that opens the entry into a valley covered with old oaks of an immense size, and other very beautiful trees, which maintain there a perpetual verdure, and shade; the rustick variety of their disposition could not have been better concerted by human taste. On the left hand, and in front of this wood, are seen immense rocks and precipices, which form a magnificent prospect.

The lake is not always constant in its confines. Sometimes it leaves a part dry for three or four years, and then rises again. At other times it rises above its usual level, and after a certain time, forsakes the usurped ground. The proprietors of the contiguous lands use to sow them when free of the water, and know
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how to take their measures by observing the ordinary periods, though they might still make their observations with greater exactness. The first year they sow maiz, or Indian corn, which yields no great crop, on account of the weeds that spring up with the grain, and which it is difficult, or perhaps impossible to extirpate: but the two or three subsequent years, they have very plentiful crops by sowing wheat: the fifth year they forbear to sow, expecting the rising of the waters, which seldom fails to happen.

The periodical flux and reflux of the lake of *Jesero*, puts us in mind of the extravagance of a river in America, in the province of *Chiapa*, which Father *Torrubia* assures us, in his natural history of Spain, runs three years without interruption, and is dry for other three years successively. The lake of *Isterbourg* in *Prussia*, has also a triennial period, and therefore has a greater resemblance to our lake, than the nearer lake of *Czirkniz* in *Carniola*. Of this last, the Baron *Valvasori* has published a long, exact, and curious description in his vast work *De gloria Carniolæ*, which is a rare book in our libraries. *Cluverius*, many years before, and the famous *Jo. Alb. Fabricius*, sometime after, mentioned the same lake; but the last took all his information from *Valvasori*.* Every year in the month of June, the waters
of

* V. *Jo. Alb. Fabricii Theologia Aquæ*. The part relating to the lake of *Czirkniz*, is also inserted in the extract of the work, in the *Bibliothèque Raisonnée*, but copied from the *Gloria Carniolæ* of baron *Valvasor*, printed at Lubiana, in 1689, in 4to. a book little known in Italy. After many others, M. Valmont de Bomarc, has also wrote on this subject, in his copious dictionary of natural history; but it is strange that he has placed the lake in Hungary, described it ill, and reasoned poorly enough on it, perhaps by having depended too much on those who pretended to have been ocular witnesses.

of this last mentioned lake, sink down through subterraneous ways, and carry all the fish along with them. In the short period of five and twenty days all the water is gone; they sow corn on the rich abandoned soil, reap it, feed cattle, and hunt with all freedom till the month of November. Then the waters re-ascend through several apertures, and in twenty-four hours time fill the ordinary recipient, and people it with fishes, some of which are two feet long, and of proportionable weight. The extent of this lake is considerable, and therefore expressly marked in the geographical maps. The Baron *Valvasori* has endeavoured to explain this phenomenon by means of subterraneous siphons, which seem rather to embarrass the matter. *Meselius* * in the year 1688, gave a very exact account of the lake of *Isterbourg*, near *Kauten* in *Prussia*. When full of water, it is very deep, and has abundance of fish; but it changes its state alternatively, and dries up in such a manner, that during the space of three years the inhabitants hunt, and exercise husbandry where the three years before they used to fish. In this lake likewise the fishes return with the waters by unknown ways; nor is there any visible stream, fountain, or subterraneous cavern that has a communication with it, or runs into it that has a probable communication with any river. Who knows? perhaps the lake of *Czirknir*, known also by *Strabo* under the name of *Palus Lugea*, two or three other lakes of *Istria*, and its neighbourhood, the perennial waters that run under the mountains, across deep gulphs and whirlpools, and the lake of *Cberfo*, have or had originally the same common spring. Aristotle believed, and wrote that the species of fish by him called *πρίχια*, and by us *Sardina*, was caught by the fishermen

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only

* V. *Acta. nat. curios.* Dec. II. n. 5. p. 4.

only on its entering the black sea, but never in going out; " because, says he, it does not ordinarily go out. The reason " of this is, that of all the other species of fishes, the Sardine " alone swims up the Danube; and when it comes to the diram- " mation of the river, is carried into the Adriatick." * We shall a little further on take notice again of this voyage of the *τρίχια*; let it suffice just now to have hinted, that some, not without reason, derive the origin of the reflux lakes of these parts, and the large fishes that are found in them, from a diram- mation of the Danube, or of some large river communicating with it, such as the *Sava*, perhaps open in former times, and now covered by the ruins of mountains, and deviated. This is a point of natural history nearly connected with other points of ancient history, and which deserves to be accurately discussed. †

Of the Caverns and Gulphs.

There are several gulfs in this island of *Cherso*, though not so many as in the neighbouring continent, and particularly of *Istria*. We visited two of them, but could not go down into the first for want of time, and the necessary helps, such as ropes, ladders, lights, &c. It is situated a short mile from the habi-
tation

* Arist Hist. Anim. Lib. VIII. Cap. 13.

† Under the title of *the small islands adjacent to Cherso and Osero* I shall treat more at large on the changes wrought in *Istria* by the subsidencies of the marble strata. The lakes, the dreadful caves, the gulfs, and the vast deposits of sand that are to be seen on the hills of that province, and the adjacent little sandy islands, have all, in my opinion, one common origin, from which, however, I would except some particular effects, as proceeding from causes purely local. This subject would require to be treated expressly by itself.

tation of the courteous Signor Jacopo Colombis, at *S. Pietro di Mezzavia*.

The ground all around is covered with very sharp and cutting pieces of rocks, among which some few trees grow, and brushwood exceedingly close together. This incommodious road goes bending a little in declivity, as you come nearer the mouth of the gulf, and there the trees are not so rare. The masses that surround the cavern are very large, and parts of a stratum two feet and a half thick, disjoined by the water, and subverted for want of an equal base, yet supported, as it were hanging in the air by the large roots of the trees. The aperture is about fifteen feet wide; and is crossed by the root of a large *ilex*. The branches of that old tree that incumber the entrance, render it still more dark and frightful. The depth of this cavern cannot be ascertained. A pause is seen from the brink, which may be about twenty feet below; but the gulf does not end there, another lateral hole opening near it, through which the stones thrown in by the curious roll, and rebound a long time before they stop. Of this abyfs, whose subterraneous obscurity must be vast and interesting, I hope one day to be able to give a more particular account, if circumstances permit me to return to that island; as I look upon exact descriptions of the interior parts of our globe, to be equally useful to mineralogy, as anatomical dissections of the human body are to physick. In the northern part of *Cherso*, which we had not time to visit, there are many precipices, and magnificent grottos, caverns and dens well worthy of observation, at least, if they correspond to the descriptions given us of them. The rent of the mountain near *Smergo*, where they usually pass from *Cherso* to the neighbouring island of *Vaglia*, must be a magnificent spectacle to a geologist,

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if

if it is true that it is above two hundred feet perpendicular, and probably some interesting observations might be made there.

The celebrated Scheuchzer has adorned his alpine travels with many prints, representing such like gigantick works of nature. But the rich, and learned men of his time, contributed towards the charge of engraving, chusing one or two each, in order to bring to light the amazing architectonick labours which the waters, time, and other more prompt and impetuous agents had concealed among the wild asperities of the mountains, and in desert places of difficult access, where no other travellers but the lovers of natural history chuse to go. *

The other cavern, or *foiba*, which we visited, is three miles from the city of *Osero*, near the *stanza di Gbermosfall*. In that situation there are, properly speaking, three caves which communicate one with the other. The variety of their symmetry, within the small space of about three hundred feet of ground, serves manifestly to shew what curious and considerable differences might be found in the gulfs, precipices, and subterraneous caverns scattered over the island, and especially in those that run under ground in the highest parts of it, where, probably, no man has hitherto had the courage to penetrate, and where I would penetrate with pleasure!

You

* *I. Scheuchzeri Itinera Alpina. Lond.* Sir Isaac Newton, Woodward, and many of the first names in England, contributed to the impression of this work. Scheuchzer had nothing to think of, but only to send his MSS. to the Royal Society.

You go down by an uneven steep path into a large hole, the aperture of which forms an irregular parallelogram, and runs between two strata of marble inclined in the same direction. The surface of that on which you tread in descending is unequal, and full of broken pieces. It appears to have been torn suddenly from the other stratum, which hangs out of its perpendicular about twenty feet, measuring from its greatest height, which is about sixty. In falling, it seems to have struck against a very unequal plain, and thereby to have been broken in several places. The circumference of this hole, which wants none of the wild ornaments of trees, bushes, and uncouth chasms, is of sixty-seven feet. The two lesser sides are formed of hanging grottos, supported with masterly negligence, or rather by the nicest art of nature. Below these the entry into the two lateral caverns opens on both sides. The smallest of these, which lies on the left hand of those who descend, reaches about fifty-five feet under ground, having nowhere more than fifteen feet in breadth, nor less than ten in height. The arch of the entry is very regular, but within, it is neither magnificent nor ornamented. It has something, however to supply this deficiency: In the farthest corner of the cave, where, with the most scrupulous and exact curiosity, we went with lights in our hands, we found a deposit of semi-petrified bones connected together by a kind of iron stoney ochre. The bones lie, as it were, concealed on the left hand of the farthest hole in the cavern, not above two feet from the ground, and buried above thirty feet under the superficies of the hill, which is all composed of marble. Above this hole, not above two feet broad, the vault is very high, insomuch that it looks like the cylindrical inside of a tower; in entering, one is obliged to stoop very much.

We

We returned out of this hole, and crossing over the large cave already described, we came to the entry of the third cavern, which exceeds the other two in magnificence, largeness, and regularity of architecture. The caprice of the shepherds has almost shut up the entry by throwing stones into it. The remains, however, half open the segment of an arch well formed, and which appears to have pilasters very regularly cut. Under this arch, sometimes walking, and sometimes creeping, or letting ourselves slide backwards, we got into the large cavern. It is sixty-five to seventy feet in diameter, and about as much in height, and a hundred and fourteen in circumference. In the middle of the roof, there is a circular aperture, like that of the Pantheon at Rome, which may be about twenty five feet in diameter.* If the arch of this subterraneous *rotunda* were not embarrassed with stones thrown in from above, it would form a still more surprising spectacle. On the right and left hand of the entry, the strata are inclined in a strange manner, one against the other, and they appear to have been thrown into that unnatural situation by some great ruin. The great convergent angle formed by them serves laterally for the vault. The side of the cave bends a little above the arch of the entry, though not much, on account of its small thickness, which increases in ascending from one foot to twelve, and forms a divisory wall about sixty feet high, between the hole in the middle and the lateral one. Though the subterraneous rotundo is not furnished with considerable stalactites, yet it deserves to be seen, described, and drawn, for its largeness, and rustick regularity, which render it singular. Nor ought this kind of cryptography to be reckoned useless, or even of little moment. It has suggested
grand

* In the acts of Copenhagen of *Bartolinus*, there is a description of a similar cavern in Iceland. *Act. Harp. T. 3. Trukillus Arngrimus descr.*

grand ideas to the boldest architects; and besides tending greatly towards the progress of mineralogy, it often proves instructive in hydrography, and affords the most ancient and incontrovertible documents of the history of our globe.

From the many clefts, which run perpendicularly, and sometimes obliquely into the mountain, and from the vestiges of corrosion discernible in the walls all around, it may easily be deduced that water has been the architect of this work, operating in secret for many ages upon the hard marble. I dare not, however, positively say that the rain water began so great an undertaking, nor would I venture to assert that the subterraneous running waters had effected it; because many salient inequalities in the rock, near the plain, and consequently subject to an accurate examination, are pierced and corroded precisely in the same manner as the sea water uses to corrode and pierce the rocks of the same substance. And here it is also proper to remark, that the points of the rocks which remain bare on the superficies of the hill about those caverns are intersected by holes, windings, and cavities in the same manner; and although these are full of earth, and half covered with grass, they appear plain enough to an eye accustomed to distinguish the work of the waves. Who knows what dreadful charybdis swallowed up, and regurgitated the sea waters from those concave rocks, in what remote ages, more ancient than history, or fable, or perhaps than the boldest conjecture of man? And as a confirmation that the waves of the sea, in former times, filled this subterraneous gulf, there appears introduced between the divisions of the convergent strata, a secondary stratum of minute *breccia*, of very unequal thickness, which, by the nature of its composition, manifestly declares itself adventitious, and of posterior formation

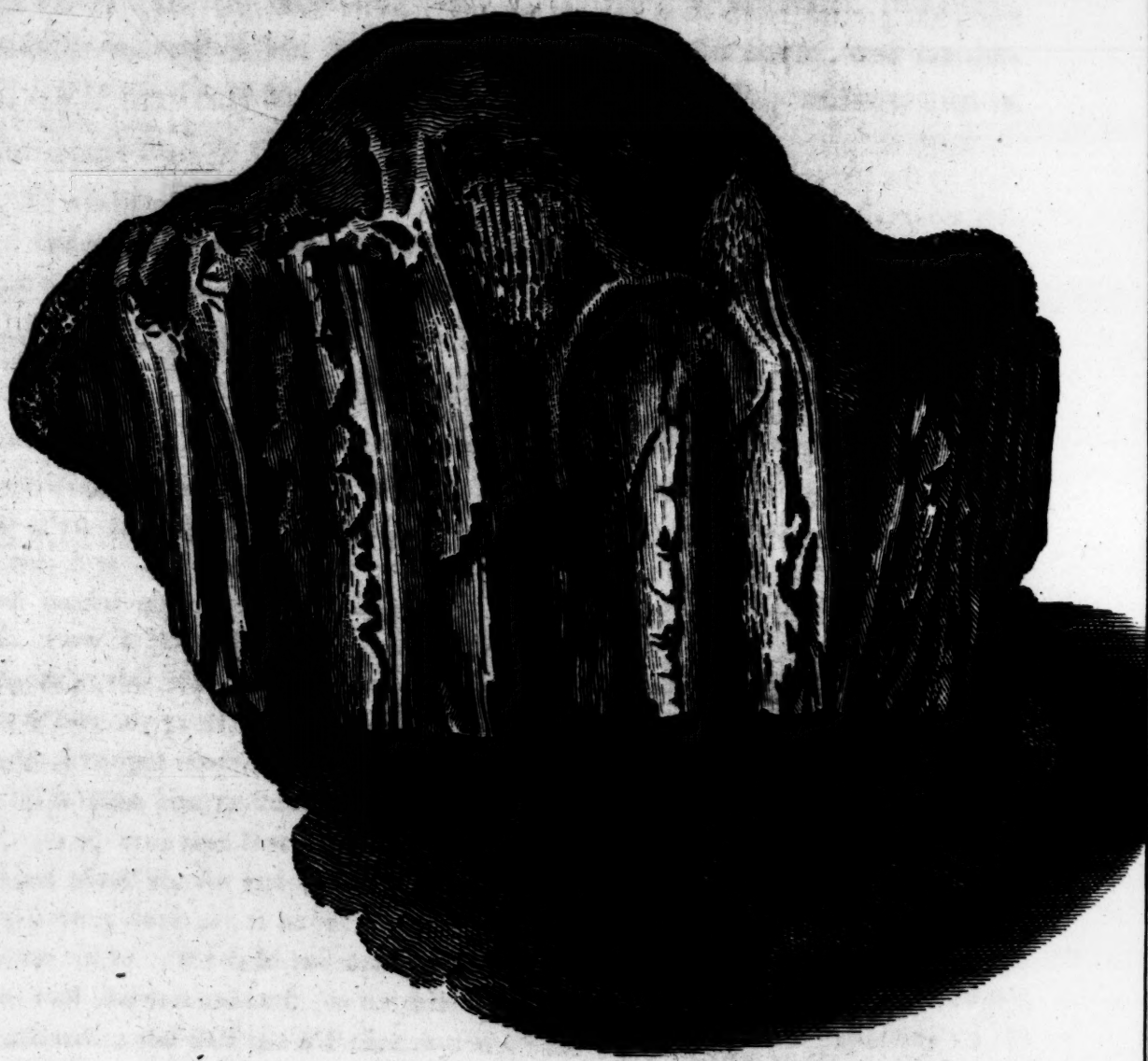
formation to the rest of the mountain perhaps many thousands of ages. This *breccia* is similar to a fine species of marble in the island of *Veglia* called *Mandolato* by the artists. It is for the most part composed of white pieces, mixed with some of a pale red, united together by a stalactitic cement of a flesh colour. In this third cavern or subterranean rotundo of Ghermosall there are fossil bones to be seen by the clear light of the day, as they were in the first by candle light; or to speak more properly, there is a large mass of that substance in which the fossil bones of those parts are constantly inclosed. It is situated opposite to the entrance of the cavern, about forty feet above the bottom of it, and about twenty below the superficies of the hill, and the edge of the grand aperture through which the light descends.

Of Fossil Bones.

Fossil bones, which are so frequently found in Dalmatia, and were the principal object of our voyage, were first taken notice of, as far as I know, by the celebrated *Vitaliano Donati* of Padua, in his *Saggio sopra la storia naturale dell' Adriatico*. He had observed them in several places on that coast, where the desire of acquiring new informations and knowledge carried him several times; but the want of means, which proved a constant obstacle in other enterprises, suitable to his great learning, and declared genius kept him behind in the examination of this particular likewise. * It had been rumoured, that the quantity of those

* Though *Vitaliano Donati* undoubtedly merits a very honourable place among the Italian naturalists of this age, yet no one has hitherto wrote his elegy, or collected his memoirs. He died a victim to his genius for natural history; and all the lovers of that science will consequently see with pleasure, that he is still remembered.





Piece of Fossil bone, & teeth, from the Island of Otero.

those bones was so immense, that the whole island of *Osero* was altogether composed of them. This report naturally made

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a great

membered. *Donati* was born in Padua, the 8th of September 1717. His family is of the citizens of ancient origin. Father *Vio*, the Jesuit, was his master in the grammatical studies; professor *Graziani* in philosophy; *Lavagnoli* senior in medicine; and the celebrated *Morgagni* in anatomy. He shewed, from his childhood, the greatest inclination for botany and natural history; and, at the age of twelve years, knew all the medicinal plants, and had made a collection of natural productions. When some years older, he profited by the friendship of the celebrated *Pontedera*, and was generously furnished with books and informations by the living professor *Vallisneri* junior. His best masters were, however, his own mountain and maritime peregrinations; which he began in Dalmatia in 1743, and continued them for five years. He was not able to go always alone; and on account of his straitened circumstances, which is bad company, he was sometimes obliged to travel with a rich person, which is often worse. He was at *Pola* with the celebrated Count *Gian Rinaldo Carli*, who, with patriotick zeal, had undertaken to illustrate the Istrian antiquities, not to leave it to strangers, to the shame of the Italian name; but there he did not observe much, and made some mistakes. He was chosen for adjutant to the marquis *Poleni*, publick professor of experimental physic, and cultivated under so great a master all the parts of physico-mathematicks. With him he made a journey to Rome, and there became an intimate friend of *Lepratti*, the papal physician, to whom he afterwards dedicated his *Saggio della storia naturale dell' Adriatico*, a work of great merit, which Count *Ginanni* of Ravenna endeavoured to depreciate, though with little success. The essay of our *Donati*, was published in 1750, and was afterwards translated into French. The fame which the author acquired, induced his Sardinian majesty to appoint him professor of botany and natural history at Turin. He went there, as may be supposed, very willingly; made many excursions among the mountains of Savoy, and Genoa, and would have been happy, could he always have conversed with the mountaineers, who generally are harmless people. The king, his master, sent him out of the way of his enemies, whose envy and hatred his merit alone had raised; he commanded him to set out on a voyage to Egypt, and from thence to visit Syria, Palestine, Arabia, and the East Indies, to make observations, and to collect the rarest productions of nature. In 1759, he was in Alexandria, saw Egypt, as far as the great cataract

a great impression on the minds of the curious; and besides, it was known for certain, that quantities were found, not only on the coasts of *Istria*, towards the *Quarnaro*. and in many parts of Dalmatia, but also on several islands without the Adriatick; all which served more and more to embarrass the most sensible heads, and to produce much nonsense from those who know little, and think they know a great deal. We went with an intention to see with our own eyes these wonders in the island of *Cerso* and *Osero*, where we had been told there was no difference between houses, mountains and burying places, but in hardness and in years.

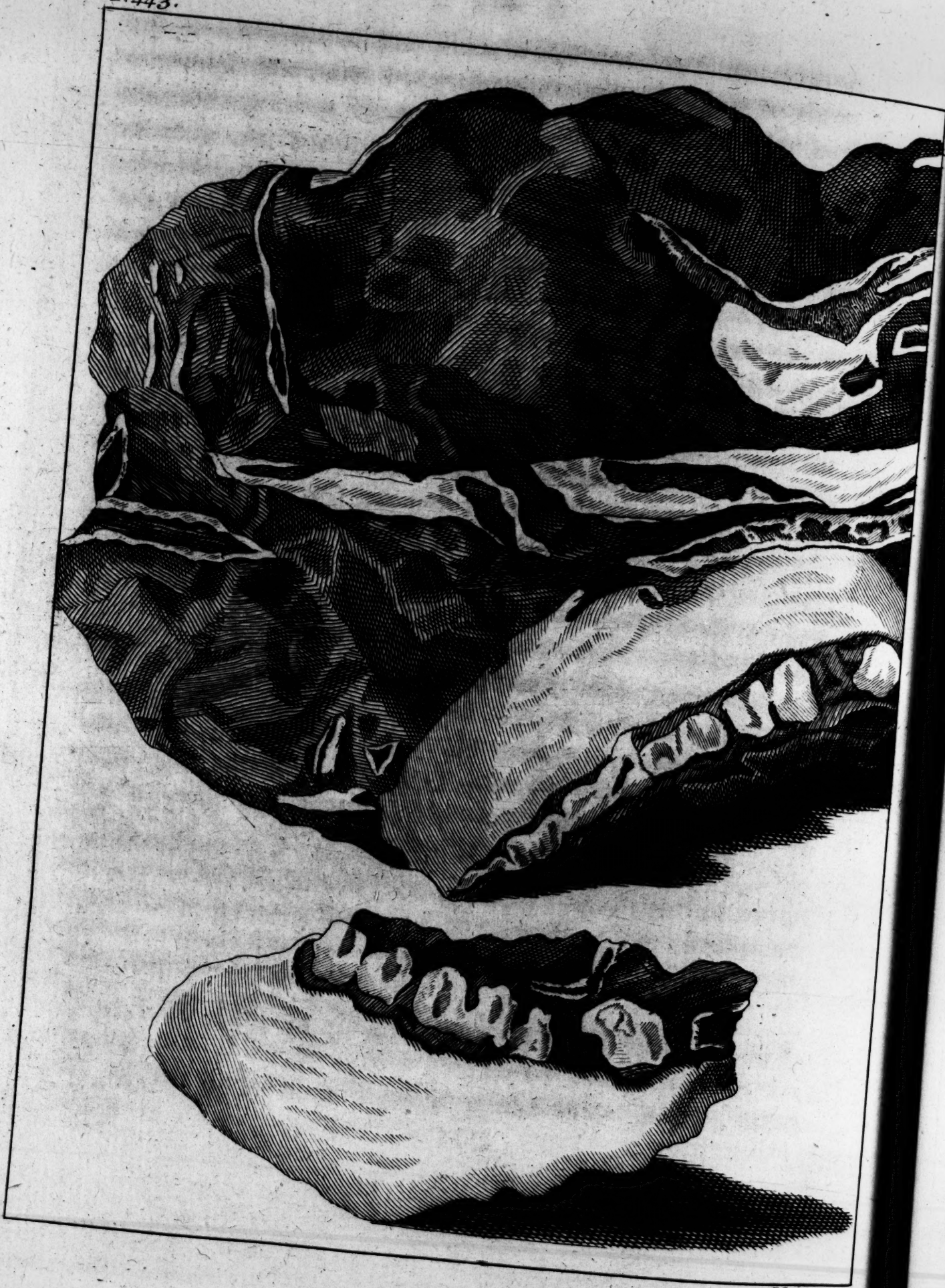
We did not find, as we had been given to hope, any strata of bones so extensive, as could afford ground to imagine that the organization of the whole island was composed of them; yet nevertheless the quantity which we met with, is sufficient to raise wonder and serious reflection. The frequent heaps that are seen, the sameness of the substance, the variety of the positions, and the identical materials of the congeries, might give room

to conjecture of the Nile, and a great part of Palestine, Arabia, and Chaldea; and, in all those travels, was exposed to suffer the cruel consequences of a bad choice which he had made of his companions. While he staid at *Bassora*, waiting for orders from court, he fell ill of a putrid fever, and died in a few days. M. *Granger*, who was sent by the court of France, to travel in Egypt and the kingdoms round it, for natural history, had also the same fate in 1734, two days journey from *Bassora*. The news of his death came to Turin about the end of October 1763. He left in manuscript two volumes in folio, which his friends, and all the learned wish to see published. A dissertation of his *de Antipate* was inserted in the *Giornale d'Italia*: but it seems to require to be retouched on the original.

I owe all these memoirs to Doctor *Genuari* of Padua, an intimate friend of *Donati*, and well known in the literary world;



P.443.



J. Lodge Sculp.

room to conjecture, at first sight, that one immense stratum had been composed in remote ages; but who can pretend to imagine how remote? There are various species of terrestrial animals, sometimes comminuted and confused, and sometimes perfectly well disposed and distinguishable. The places most known, where they are found, are along the coast, in the vertical and horizontal chasms, or in the divisions of the marble strata which form the base, and the hills of the islands. The fishermen and seamen, who, in small barks, usually kept near the shore, can point out many of those spots; and the shepherds are acquainted with those within land, and in the caverns. Chance might discover new collections to observers, as it did to us, if the lovers of natural wonders came more frequently on that coast.

Every heap of bones, whether in the vertical or horizontal clefts, is, as it were, wrapt up all round in a kind of sparry stactitick shell, three or four inches thick, which incrusts the sides of the fissure, and follows all the sinuosities exactly. Where the congeries of bones is horizontal, it is always accompanied by the sparry crust, and not only is divided by it from the lower stratum, but evidently shews to have been also coated above by the same crust of reddish diaphonous spar; which proves to every one, who is a little acquainted with the interior parts of the earth, the existence of one, or more strata of calcareous stone formed on those heaps of bones, but now destroyed by time. Were we not to suppose this, we could not understand how such a remarkable sparry crystallization came to be formed.

The substance of the bones is ordinarily calcined; sometimes it is found penetrated by pyritical fluors, which are commonly called *denditri*. The fistular bones, as those of the arms and

legs, are lined within with a crust of gemmeous spar, lucid, and exceedingly pure, like a crystallization made by a difficult filtration through a very compact body. The *acetabuli*, and ribs, and generally all the spongy bones, preserve exactly the whiteness of calcination in the smallest *comina*, or partitions of their cavities. When not very small, they are full of an ochreous stoney matter of a reddish colour; and when very small, they are entirely coated with a stalactitic shining reddish crust. Of the horny parts of animals, no vestige is found. The teeth preserve the natural brightness of their enamel, and are often found placed in their native jaws and holes. They are frequently, however, found separate, and leave no doubt about the species of animals to which they belonged. Excepting the teeth and jaws, we could not find any other part of the *cranium* well preserved, and that was not equivocal.

Having examined several months before I went to the island of *Cberso* and *Osero* with my learned friend Mr. Symonds, and professor Cirilli, a piece of a congeries of Illyric bones, we found a human jaw, a *vertebra*, and a *tibia*, also human, somewhat larger than usual in our age; some sheeps bones, and teeth of oxen and horses. The celebrated anatomist, Doctor *Leop. Caldani*, who does so much honour to the university of Padua, ascertained them. The noble Signor *J. Morosini*, a great lover and cultivator of botany, and a diligent collector of marine curiosities and fossils, has many pieces of these *osteolithi*, and particularly several brought from the islands *Apfyrtes*, of one of which I thought proper to have the figure engraved. In one of them there is a jaw divided in two by a stroke given to its matrice, so that the half of one, and half of the other side appears.

Together

Together with these bones, are united by the same cement, many pieces of various size, and a great number of splinters of white marble, angular, sharp, and of consequence never rounded by the waters. It happens also sometimes, that, in a great heap of such pieces and splinters of marble, none at all, or a very few pieces of bones are found. The cement, that joins them together, is however constantly reddish, and of an ochro-tartarous nature. When exposed to the air, it becomes more firm, and almost doubly harder than it was before detached from its native position. No vestige or fragment of marine bodies can be discovered, either by the naked eye, or by the help of glasses, mixed with the bones; though the strata on which they lie, and those above them, are full.

I know very well, that in many other parts of Europe, fossil bones of wild beasts, and perhaps of men, are found. The celebrated Gesner, in his treatise on the origin of petrifications, speaks of an anthropolite, which, however, is not very ancient; in the Philosophical Transactions,* mention is made of a human skeleton.

* V. Philosophical Transactions for the year 1745. No. 475. art. vi. In the shire of Derby, in a stratum of marle of no very good quality, were found some deers horns, and also a skeleton, thought to be human. When it was exposed to the air, the bones all fell into powder, and only the teeth could be collected, being preserved by their varnish. Scheuchzer, in his Alpine travels, speaks of fossil bones observed by him, and also published a pamphlet with this title, *Homo Diluvii testis*, and afterwards had it engraved on copper, and inserted in his *Physica sacra*. The figure which he has repeatedly given of that petrified carcase, resembles a human skeleton so little, that there is much reason to doubt of the fidelity of that illustrious naturalist's eyes. Every body knows that Kircher was apt to see one thing for another, and was too fond of the marvellous. I saw at Rome, in the *musæum Kerkerianum*, the fossil bones of the cave of *Palermo*. They are

skeleton found at Derby; *Hoppelius* relates at large the discovery of another human skeleton made at Aix in Provence; both
Scheuchzer,

are encrusted with stalactites, and perhaps by the work of art; their form, and the whiteness of the calcination, are exactly preserved; in short they are perfectly distinguishable bones. Notwithstanding all this, Father Kircher calls them *ossa lapidea*, and *purum naturæ opus*, meaning the *natura mineralis*. That good father, who had all the resolution, assiduity, and talents requisite for an observer, had the misfortune to have gone through a course of antiquated physicks; and hence he explained every phenomenon by the barbarous jargon of the schools. *Mercati* likewise, who must have studied under masters full of prejudices, and was deprived of the good books of foreign observers, which in his time were held in abhorrence at Rome, has filled his *Metallothea Vaticana* with wretched things. He talks, in that work, of fossil bones as of *natural productions* of the subterranean kingdom, grown under ground in the dark, by means of the *expansion of the primitive forms*; an explanation that would scarcely be sufferable in the mouth of a scholastic friar, or a country curate. *Hoppelius*, though he lived before *Mercati*'s time, did not call in question the truth of the human skeleton, found near Aix in Provence, the bones of which became dust when exposed to the air, and the brains were changed to a kind of cake. In our days the favourers of the *lusus naturæ* are reduced to a small number, and M. de Voltaire, who chuses to appear one, for his amusement, is too reasonable to be seriously of such an opinion. The antropolite of Gesner, of which we read the story in the treatise *de petrificationum originibus*, is the work of a few years, and not to be compared to the fossil bones of Dalmatia. Perhaps those of the celebrated grotto of *Baumann*, in the Ercinian forest, are equally ancient; or those in the great cavern of *Schartzfeld* of *Hertz*; or those which the famous M. *Guettard*, prince of the French naturalists, discovered in the district of *Estampes*; those observed by M. *Ascanius*, in the chasms of the mineral mountain of *Toberg*, in Sweden, or those which are found near *Constadt*, illustrated by David Spleiss in his *Oedipus Osteolithologicus*. In the Veronese hills, besides the famous skeleton of the deer, Spada found those of various other animals. In Arragon, near the village of *Coucout*, there is a prodigious quantity. In Tuscany, the carcasses and bones of elephants found buried and petrified under the hills, are well known. If M. *Robinet* had adverted to all these instances, he probably would not have said, that nature was studying the project of making man, when she formed those organised bodies, which in time became petrifications.

Scheuchzer, and Kircher, speak of fossil bones of the same species with ours : but the greatest part of those pretended carcasses and bones may be subject to doubts. If even all the fossil bones mentioned by various authors were really human, our Illyric bones would not be less worthy of particular consideration, as they far exceed all hitherto known by the naturalists in preservation, frequency and quality. In our journey over the island of *Cherso* and *Osero*, which was rather somewhat hasty, we could, in several places, cause them to be dug up under our own eye. There are two different heaps on the isolated and desert rock of *Gutim*, though we were told only of one of them on the spot, and did not find the other; a mile from *Gutim*, at a place called *Platt*, on the island of *Cherso*, other heaps are seen. We found them, as I observed already, in the caverns of *Ghermoshall*, and at *Porto-Cicale*, in the post of *Vallishall*, and at *Balvanida*, on the other side of the strait, not far from *Lussin picciolo*. From thence passing over to the small island called *Canidole picciola*, and *Stracane*, in the language of the country, we discovered two large heaps; afterwards, we went over to the small island of *Sansego*, about eight miles distant from *Lussin picciolo*, and were shewn, at a distance, the place where they lay, at the foot of a hill of sand, of which the island is composed, and of which I shall speak more at large. Though the soil of that island is very far from being ochreous or irony, yet, there also, the bones are wrapt in their usual martial lapideous earth, and accompanied with stones and splinters of marble. The same characters accompany the Illyrick bones over all the islands, and along the coasts of Dalmatia, where the mariners use to see them frequently, and where they were observed by the above mentioned *Vitaliano Donati*, in the several voyages he made from 1743 till 1748. Mr. Martin Thomas Brunnich, professor

professor in the university of Copenhagen, in his travels through Dalmatia, found some of those bones in the *Isole Coronate*, and was convinced they were human. They say there is also a great deal of them along the torrent *Cicola*, between *Sibenico* and *Knin*; near *Zara*, and at *Rogoshiza*, in the bank called *Rasip*, and in *Isola grossa*. Nor is there any considerable difference between those found in Dalmatia and at *Corfu* in the Ionian sea, where there are great quantities, at a place called *Fustapidama*. Only at *Cerigo*, where many are dug up, the appearance is somewhat altered, the colour being less dark, the stone in which they are inclosed harder, and the bones themselves more crushed. A French traveller, whose name I do not at present recollect, writes, that many fossil human bones are also found in the island of Cyprus, and I think he mentions particularly a whole skeleton.

This extraordinary abundance of bones, their constant confinement in a lapideous ochreo-stalactitic earth, the position of the various heaps observed by us, and the same correspondency which we discovered in the caverns of *Ghermesball*, besides giving ground to suspect that a stratum had been formed in remote ages, might also raise not a very unreasonable conjecture, that this stratum, alternatively composed of marble splinters and bones, extended from the northern shore of the *Quarnaro*, to the islands of the Egean sea, and probably still farther. This conjecture, though, to some, it may appear too bold, will, I apprehend, not be thought so by those who are used to observe the courses of strata generally traversing vast tracts of country, and corresponding together from one to the other shore of the sea. The coasts of France have that kind of correspondency with those of England, which lie opposite to them; and
from

from one side to the other of the Apennines, the strata of calcareous stone of marine original, are seen to run around the large hollows, excavated by the impetuous torrents for many miles. The not finding an uninterrupted continuation of the heaps of illyric bones, does not afford a sufficient ground to deny the existence of so wonderful a stratum. A thousand examples of large insulated masses, commonly found dispersed among the mountains, of a very different substance from those that surround them, discover, and prove at the same time, the existence of ancient strata destroyed by the waters, and time; nor do they leave the least room to doubt of this truth. Besides those who might think such an argument against this conjecture conclusive, ought to consider, that those congeries are found not only of bones, as has been taken notice of above, but sometimes of marble splinters alone, in some places, disposed horizontally, and in others insinuated into the clefts or chasms, precisely in the same manner as the bones. One would not easily be induced to believe, that these bones, splinters, and stones, have been so carefully buried by the hands of men; and that such numerous heaps can be the result of burials. The not finding whole skeletons,* but rather every thing confused, broken, and mixed with reliques of various animals, seems to destroy entirely all probability of such a supposition. And if even we were to imagine that all those bones had been interred on purpose

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* After we were returned from the island of *Gherfo* and *Ofero*, our kind hosts acquainted us, that, after our departure, a whole human carcase had been discovered in a rock, and invited us to repass the gulf, to oversee the cutting of it out. Circumstances did not permit us to attend to this invitation; and who knows how so rare and valuable a monument of the antiquity of our species may have been treated by those people.

pose in such numerous burying places; how many ages would have been requisite to render them so very frequent, and how many more to raise from their level the hills and eminences, under the bases, or in the hearts of which the bones lie in heaps? And in what age can we imagine that those countries were inhabited by a nation, that pre-existed the formation of the marine hills, and islands, which in our days are seen in the Adriatick?

I am far from venturing to give my opinion about the origin of so strange a phenomenon; and should indeed be quite at a loss how to give it, as every conjecture, that I can think of, is exposed to unanswerable objections. If I could, like some who have treated similar subjects, attributed all the organised fossils to a *lusus naturæ*, by following the sacred footsteps of the venerable ignorance of the schools, I might dispatch the explication of this or any other phenomenon, in a few words, only by saying they were effects of the flood, Volcano's, or earthquakes. Notwithstanding the good philosophy, and physical observations of this age, there are still some, who, in treating of a point of natural history, either give too much scope to a warm, or prejudiced imagination, or follow implicitly the state and unphilosophical doctrines of the thirteenth century; but I am not willing to put myself among their number, in order to shorten discussions. I know well, that, by hastily forming, or adopting systems, philosophers often wrong their own genius, as well as the truth, and, on the other hand, am convinced, that the author of nature is not capricious in his works, and that the sound philosophers of our times laugh at plastick powers, and archetypal ideas, or such like scholastick barbarisms.

I think,

I think, that, in treating of extraordinary phenomena, hard to be explained, and liable to difficulties on all sides, the best method that can be taken by any person who is the first to write purposely concerning them, is to relate simply, and to describe, with the most scrupulous and exact precision, every thing he has seen or observed on the subject. Every body is at liberty, afterwards, to explain them his own way, either according to the systems of others, or by some new hypothesis formed on purpose. For my part, I am perfectly convinced, that I have not the necessary *data* for a satisfactory explanation, and therefore will not hazard a conjecture concerning the ancient origin of the Illyric fossil bones; but at the same time am very ready to attend to any person who will undertake to solve my doubts. These fossil bones, are, in my opinion, one of the most important objects about which the learned curiosity of the naturalists can be employed; and it were to be wished, that some of them, led by genius, would give us an account how far precisely those strata reach over all Dalmatia, and the islands of the Levant.

Of the Nature of the Marble, and Petrifications.

The fossil bones, enclosed in the lapideous earth before described, are not the only lithological curiosity of the island of *Gherzo* and *Osero*, and those adjacent to it. The nature of the marble, of which they are almost wholly composed from the top to the bottom, merits particular attention. They are differently organised, and the component parts of the various strata are also combined with some diversity; and sometimes a small dissimilitude may be observed between the parts of the same stratum, at any considerable distance the one from the other:

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but as their direction is always constant, so are the principal elements constantly the same in each stratum, notwithstanding the various distances of its parts. The stone which occupies the highest parts of the island, as well near the lake of *Jesero*, as about *Lussin picciolo*, is analogous to the common marble of *Istria*, only it contains a greater quantity of marine bodies of the most distinguishable species, and which usually are better preserved than the others, I mean *phacites* and *elicites* of every variety and size. The quantity of these bodies semipetrified, or changed into stalactites, but not become of equal hardness with the matrice in which they are contained, renders that marble, less strong, and less apt to resist the action of the air, and corrosion, than the Istrian. The ancient sea bottom, hardened by time, and the operative faculty of the waters uniting the particles most apt to concrete in crystals, has been abundantly peopled with large and small *nummali*, and fragments of them, many ages before it was exposed to the open air. These adventitious bodies, of which the species is justly supposed to be lost, were probably not so easily compressible as other softer and unconnected parts of the mud; hence it would follow, that, preserving some degree of their disposition towards calcination, they were shut up in the petrification of large strata. Whenever it happens that they are exposed to the violent action of any exterior force, they soon begin to be discomposed, in such a manner, that the superficies of a piece of this stone, which is almost half composed of them, shews manifestly its disposition to be disunited, reduced into powder, and consumed by time. Notwithstanding, however, this smaller degree of hardness which the *nummali* have when inclosed in the strata that compose the tops of the mountains of the island, they use, when entire, to resist time and corrosion better than the rest of the stone, in consequence

sequence of their structure, which, between the *lamina*, left room for a sparry crystallization. Hence the *nummali* and *frumentarie* of *Cbersò* remain considerably prominent, and less worn than the stone in which they lie, though they are evidently not so hard; which is a proof that the greater or lesser solidity and apparent compactness of a body, is not a sure rule of proportion to determine the durability, which rather depends on the secret nature and disposition of the particles whereof it is composed, and the species of force actuating towards its destruction. And though the cause does not appear outwardly, the same thing is frequently seen in various kinds of fossil matter, and the extraneous body, though specifically less compact, resists longer than the marble, or *schistus* in which it is contained. The small differences of the combination of the elements, which concurred to form any portion of a stratum, and the very minute varieties of situation, air, earth, water, and effluvia not reducible to calculation, are altogether, or taken separately, the causes of the most remarkable differences between stones, which, however, have all the same basis. Mineral substances when dissolved tinge the earth, of which the hardest marble is formed, of various colours, in proportion to their quality and quantity; and it happens not unfrequently, that marble strata, already hardened, through the intervention of water or fire, imbibe, or open their pores to let in a colouring matter, or mineral *efflu- vium*, which changes their secondary qualities almost radically. Hence, taking the whole lithological kingdom together, it may freely be asserted, that the waters charged with heterogeneous particles, and the subterranean vapours, have almost as considerable a part in the alterations of the combination of stones, as the volcanic fires, which melt, reduce to ashes, and mix with an infinite variety, the substances variously combined, on which they

they act with different degrees of force. The *nummali* shut up in the real marble, and the calcareous stone of *Ofero* and *Cberfo*, are of the flattest kind, and of various sizes. Many of them have above three inches in diameter, and two or three lines of thickness, and are horizontally placed; some others, of a size not much different, are in a vertical position; and others are also found in a posture somewhat inclined. From the bigness of above three inches diameter, they diminish by degrees to the smallest *frumentaria* or *phacites*; and to see this, the observer has no need to multiply his examinations of different pieces of stone, as very often all the varieties are contained in one piece alone. The piece represented in Fig. 11. will serve as an example.

The other sort of marble which is seen naked on the shores, and constitutes the base of all those islands, having constantly above it another stratum of about three feet deep, of precisely the same substance, is well worthy of attentive and diligent observation. Both these strata are of a dirty whitish colour, spotted and bespangled with very white crystallizations, which sometimes are lodged between the fissures of the earth petrified by them, running through the fissures in very minute diramations; sometimes they have occupied the place of marine bodies calcined, and perhaps in part destroyed before the induration of their actual matrice. Among these, some *turbinati* are distinguished, which appear to be of the hardest spar, and a great number of whitish fistular bodies of the same substance, which, at first sight, might be taken, and which I actually mistook for bones. The stratum washed by the sea on the coasts of *Istria* and *Liburnia*, is composed of the above mentioned materials, and it is evident enough, that the base of the island of *Cberfo* and

Fig. 1.



Fig. 2.



J. Lodge Sculp.

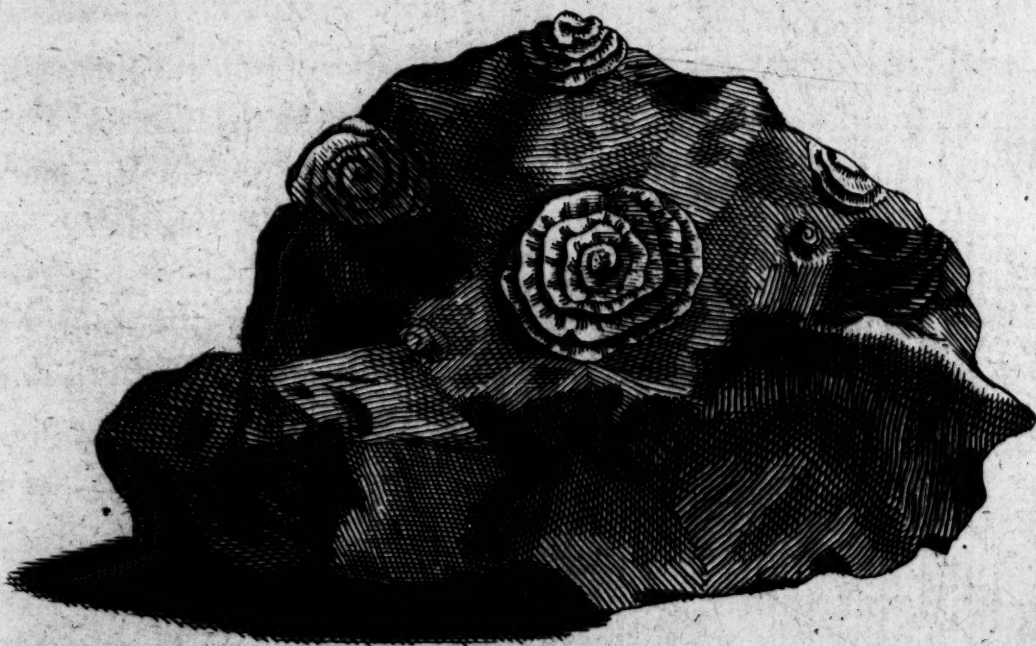


and *Osero*, and of the adjacent islands, is only a continuation of the same, and formed at the same time by a very ancient sea, and in less remote ages, though always very far from ours, interrupted by a new sea, And certainly the Adriatick of our days, ought to be called a new sea, very different from the ancient ocean, which formed the whole of that tract of country, which the Adriatick; and the rivers, by little and little, go on corroding, if the spoils of animals, still preserved in the bowels of those vast petrified strata, are of totally different species from those that now inhabit our seas. I know not what the bishop *Brouallius*, professor *Bring*, and the other antagonists to the diminution of the waters, and their change of seats, could answer to these manifest facts. They were certainly in the wrong to call in religion to the assistance of their favourite hypothesis, endeavouring to oppose and overthrow the observations of the most learned naturalists, by arbitrary interpretations of sacred texts. Religion never is a gainer on such occasions; witness the abjuration of *Galileo*, which does so much dishonour to Italy.

The marine air, and perhaps the sea water, which has always something of acid in it, make a very curious operation on the superficies of the species of marble exposed to their activity. It would have been thought extravagant enough if any body had pretended to desire, or hope, that the most diligent stone-cutter in the world, by means of a chissel, or the most profound chemist, by means of some menstruum, should shew us the course, and diramations of the vessels in stones; many lithologists by profession would never even have suspected their existence. I had however the pleasure of seeing this executed in the most masterly manner along the shores of those islands, and sometimes on the lower parts of the hills. The points of the second stratum, that
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are not sullied and disfigured by the salt waters, coriaceous or stony lichens, *muscus*, *belani*, or labours of marine insects, but corroded only by the air, and the asperion of the waves, shew the internal texture of the marble, and the most intricate passages of the smallest canals, in which the sparry substance is deposited and crystallized, opening the way between the divisions, and between the smallest lumps of the particles of clay not sufficiently hardened, which it proceeded to petrify, when assisted by the waters that served as its vehicle. The action of the moist and salt air, and the drizzling of the sea water concurring in the decomposition of those marble strata, ordinarily finds the pure calcareous crystallized substance less easily dissolvable, because its parts not being amalgamated with the clay, are more in a condition to resist, as being more continued, compact, and adherent; and hence, corroding all round it, leaves prominent every one of the small canals above mentioned, together with all their capillary ramifications. Though this exact anatomical system cannot be observed in every species of marble, and perhaps in some kinds the observations may seem at first sight directly opposite, yet I think we may reasonably conclude, from the result of the combinations concurring in the formation, and dissolution of the marble of *Cherso*, that all, or the greatest part of the stones, which owe their origin to the water, were rendered solid, and continued by the same operation of nature; from whence, perhaps, arises a new chain of coherence and analogy between the mineral kingdom and the other two. The examination of a variety of agates and jaspers containing curious spots, shades, and herborizations, if made under the eye of a skilful lithologist, might contribute much to confirm the similarity and connection just mentioned.

Besides





Besides the petrifications contained in the hard marble, and not discernible any other way but by the corrosion of the superficies, I found, in the small port of *San Martino*, near *Loffin*, some large species of tophaceous stone almost entirely composed of *nummali* of all sizes, from the largest to the smallest, but all of one species, which has the spiral and the divisions of the cells prominent on the outside. This species, which is very common in the hills of *Cormons* in *Friuli*, and in some parts of the *Vicentine* territory, has not been drawn by any body, as far as I know. I cannot, however, affirm that it belongs naturally to the island of *Gherse* and *Osero*, having only seen on the shore of *San Martino* some detached pieces, which could not give sufficient ground to suppose that there was a stratum of the same substance in the neighbourhood. The *nummali* are quite different from those above described; and it appears rather probable, that these stones have been brought there as ballast, either from some place far off, or perhaps from some island in the neighbourhood. And this conjecture seems so much the more reasonable, as there is a great quantity of *nummulari* in the island of *Veglia*, near the castle of *Dobrigno*. And here I think proper to take notice, that none of the species of *nummali* which I have seen, either among our hills, or on the other side of the gulf, resemble the figure given by the celebrated *Linnaeus* in his *Amœnit. Academicæ*, vol. iv. I may even venture to say, that this celebrated naturalist was mistaken in believing he had found the marine original of these adventitious productions of the fossil kingdom. The strata of marble *breccia*, of which I took notice, in speaking of the grotto of *Ghermoshall*, are neither large nor regular, and therefore do not deserve to be treated of again.

Of stones, or hard fluors, such as quartz, crystals, agates, flints, chalcedonies, or jaspers, nor of mines, there is no vestige

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found in that part of the island which we examined. Perhaps some species of those stones might be found in the northern part of the island, which our time did not permit us to visit; but it is more likely that there are none.

Of the Course of the Strata.

One of the principal reasons for my being of this opinion, though not confirmed by observations made step by step, is, that the strata correspond exactly, as well in regard to the position as the substance, from the mouth of the river *Arfia* to the furthest point of *Ofero*. The marble which surrounds the port of *Dubax*, situated in the woody peninsula adjacent to the mouth of the *Arfia*, and which is the ancient confine of Italy on that coast, has no character that distinguishes it from the marble that forms the base of the small islands and rocks adjacent to *Cherso* and *Ofero*. It is true, that the continuity of the stratum might, by some particular accident, have been interrupted, and the similarity of the divided parts still subsist; but a revolution of that kind would have produced consequences of which the vestiges would have remained visible enough in the southern parts of *Cherso* and *Ofero*, which we visited, and where no signs of subversion or ruin are seen. The strata, of which the mountains and smaller hills of that tract of country are formed, are generally very regular, and without any considerable interruptions. There are many of these however, in some places, manifestly produced by the waters, which also gave origin to the gulfs, and their ruinous adjacencies.

The attentive consideration of the internal structure of the island has confirmed me still more in the opinion which I had before, through the frequent use of observing the mountains and hills of the continent, concerning the salient and re-entrant angles

gles of Bourquet. A celebrated naturalist has brought them in vogue on the faith of their author; and many more of lesser fame adopted them as a demonstrated truth. I however constantly believe, and dare assert, that this system of salient and re-entrant angles cannot be adopted universally to the mountains, and much less to the sea shore. It is very true, that the correspondence of the angles is seen very well expressed in the sides of some vallies; but there are few vallies among the mountains that do not owe their excavation to the waters of rivers, or torrents, the constant nature of which is to form an angle, or a salient curvature opposite to every new corrosion. But where the waters have not been able to work in their usual way, and where the vallies were formed by little hills, or volcanic hills produced in various times, and with little order, there no mark of the pretended universal correspondence is seen. To set still in a clearer light the error of this hypothesis given out as a constant observation, it is proper to repeat, that the horizontal, or inclined strata, which are the most common, and nearest to their ancient natural state, correspond together from one chain of hills to another; though they may be divided by very broad vallies, which manifestly demonstrates an ancient continuity, as well as the dissolution of the large portion of mountain that existed before those great hollows.

And hence it may easily be perceived, how little probability there is, that the hills, in their first foundation, have been formed by the great Architect at corresponding angles, leaving, as it were, the *dentelli* of the strata suspended round the vallies; for according to all appearance it may be reasonably concluded, after the most diligent observations, that no vestige, or clear proof remains, in our days, of *primitive* hills, or that may with propriety be called so. Those which we

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know,

know, are manifestly produced, either by volcano's, which have burnt in almost every region of our Globe; or by the sea, which in past ages covered it altogether, or alternatively; or by the sea and volcano's at the same time. * And it appears not improbable, that the most ancient protuberances of our globe were much more vast and regular, though quite different from the structure of those we now see.

Concerning the other ideas of Bourguet, who after having established observations by no means exact, imagined by way of corollaries the past state of the earth, and found the precise time of the deluge, (as if there had been but one) and then pretended to foresee the subsequent alterations and transformations that are to happen in it, I think it needless to take any further notice. Systems, and theories resemble hitherto, and are like to resemble in time coming, (till a sufficient number of good observations are made) unripe fruit, which spoils in a short time. That of Bourguet seems to have found more partisans than it deserved, and several of them have gained themselves no honour by adopting it. It was sufficient, indeed, to stay in their chambers, and to theorise at their ease on good geographical maps, concerning the truth of the proposition.

* In the celebrated mountain of *Bolea* situated in the Veronese territory, the co-existence of the sea and of ancient volcanos is manifestly seen. In our times, that is in the beginning of this century, the island or rock of *Santerini* was raised out of the bottom of the sea by a volcano. In the valley of *Ronca*, between *Vicenza* and *Verona*, the sides of the hill shew the strata alternately formed of the spoils of the sea, and of volcanic eruptions; and the petrified shells, that are found there, are often tinged with black and drenched in bitumen, and the largest *ostracites* lie involved in the *lava* and are full of it.

position *that the sides of the large vallies, as well as those of the shores of the sea, correspond with one another*; and I who have taken the trouble to examine many of them, am persuaded, *that neither the sides of the sea shores, nor those of the large vallies, constantly correspond with one another.*

The strata of the islands of *Cberso* and *Ofero* are very regularly formed. They pass from one hill to another with a kind of undulation, which probably has been, nay doubtless has been, the work of a vast Ocean. The island is too old, and has undergone too great a number of changes, as well as the rest of the globe, for us to form any certain judgment concerning its superficies. It is certain, however, that no vestige now remains of the ancient superficies, as even the order of the organization is altered in the inland parts, as well as on the sea coast. The rain waters, the subterraneous cavities, the absorptions, and sometimes more subitaneous agents, have made great ruins. The waves wash away and destroy some of the littoral hills; and hence the observation of the strata that remain exposed to the eye on the exterior part of the island, are enough to embarrass any hasty fabricator of systems. Some of them are inclined towards the sea, and, from root to root of the hills, describe arches bending outwards: but this direction is not constant. Here and there, contiguous to the arches bending outwards, other arches are seen, which bend, in a contrary sense, inwards, manifestly opposing themselves to the waves with a kind of pride. The explanation of this fact is, however, not difficult, though it might seem contradictory. The littoral hills in those parts, particularly those of *Ofero*, are formed of marble strata, the one disposed above the other in such a manner, as resembles, in large, the structure
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of the Bezoar stone, but they are not so disposed in a right line, that the sea waters can do equal damage to each in discomposing the roots, and consequently in destroying the sides and tops. Hence the strata of those hills that were more exposed to the force of the waves, must have been more easily, and in a shorter space of time, corroded, disconnected, and overturned beyond their common centre, which is the perpendicular let fall from the top of the hill where the inclination towards the sea ends, and the declivity towards the internal part of the island begins. In the course of ages, these hills, the roots and interior parts whereof were inclined towards the destroying sea, are reduced to less than the half, and therefore now appear outwardly inclined towards the land. And those hills that in our days are thus half worn away, will, in the course of years, be quite destroyed; their roots will become quick sands; and the sea continuing its incroachments, and daily gaining on the dry land * will once more by degrees swallow

* The learned author of the *Recherches Philosophiques sur les Americains*, in Tom. 2. p. 337. finds fault with *Manfredi*, because he asserted, that the waters of the Adriatick sea are risen to a level much higher than the ancient, not through the augmentation of the quantity of water, but through the elevation of the bottom by mud, and other causes. He has perhaps some reason to call the *rise of the waters* a sophism, when it is only a consequence of the rise of the earth in the bottom; and, in fact, if the mass of water continues equal, we cannot properly say, that the water rises, but rather that the superficies covered by the water grows higher. But it cannot be denied, that he is evidently in the wrong when he affirms "that, in Italy, a thousand places are abandoned by the sea like the part of Ravenna, and that, perhaps, not one place could be named where the Mediterranean had overflowed or surmounted the shore, which must infallibly have happened if *Manfredi* had reasoned well." The learned anonymous author thinks it demonstrated, that the earth carried to the sea by rivers merits little or no consideration;

swallow up that tract of country, which, perhaps, it has by degrees abandoned and reinundated already, who knows how often

consideration; and seems to have been so much prepossessed by this opinion, that he could not read the dissertation of the celebrated Bolognese mathematician *de aucta maris altitudine*, with due attention. *Manfredi* agrees that the mass of water rather diminishes for more than one reason, but asserts, notwithstanding, that the level rises, because the diminution is not in proportion to the augmentation of the bottom by the importation of mud, calculated by him, with great timidity, at five Bolognese inches in every period of 348 years.

It is certain, that if facts not depending on local causes are good proofs, the proposition of the French author is by no means true. Though the sea daily retires further from Ravenna, allowing a visible prolongation of the land produced by the mud of the Po, and some other lesser rivers, it certainly does not retire further from Venice, where, since its foundation to our times, there has been often a necessity of losing the use of places under ground, and on a level with the ground, to rebuild the cisterns higher, to rise the pavement of the streets, and squares; on which occasions we find, in digging, that our forefathers were obliged to make the same reparations. It is manifest, that all the country lying between the Lagoon, and the Paduan, Vicentine, Trevisan, and Friulan hills, has been, in former times, covered by the sea, and we remember, to this purpose, the fact related by le Clerc, in one of the volumes of his *Bibliothèque*, that in 1720 an anchor was found many feet under ground in the sea mud in digging the foundations of a building at Padua; and a further proof may be deduced from the marine stoney bottom which serves for base to the volcanic Euganean hills, and is discovered in deep excavations.

It is my opinion, that, in remote times, the sea not only washed the roots of the above mentioned hills, but even that it extended far beyond them into the Continent: and I am also fully convinced, that, for many ages past, it has not lost ground in these parts. The causeways that maintained the communication between the Cities of ancient Venice, towards *Torcello*, *Altino*, *Jesolo* and *Eraclea*, are now buried in some places, and submerged in others; our dykes, fortified at a vast expence by beams and stones, are at present not sufficient to defend us against the sea, which too often breaks through them. Some years ago the Government has determined to raise mounds of marble superiour to the Roman works now remaining, and designed to vie with the Caucasian wall: the sea beats against these, and disjoins the enormous masses; and a time will come when this wonderful work will be overflowed.

often. This kind of prophecy, is not founded on ideal chimeras, but on visible facts, which correspond together, and reciprocally

flowed. In like manner, some islands, and large pieces of the continent, about *Grado*, have, within these few ages, been covered by the sea, which every day advances and threatens fresh mischief; thus also the sea gained ground near *Malamos*, and covered a large tract of inhabited land, the ruins of which may still be seen under water in a calm: thus also the ancient City of *Conca*, opposite to *Rimini*, is covered by the waves, and more than a mile from land; and thus also the suburbs of *Pola* in *Istria* are submerged, and along the shore, at low water the mosaic pavements are discovered, as well as at *Sipar* not far from *Porano*, several palms under water. If the ingenious illustrator of the things of America were to make a voyage of observation along the coasts of the *Adriatick*, he would see, that there is no prolongation of land in this part of the *Mediterranean*, that does not proceed from importations, or other local causes; and, where these do not operate, the land loses. As the observations made on the *Baltick* by the learned *Hierna*, *Suedenbergius*, *Kalm*, *Celsus*, *Dalin*, *Linnaeus* and *Wallerius*, lose nothing of their truth when compared with those which others have made on the *Adriatick*, so these are not the less true for being diametrically opposite to those of the North. Whoever, depending on partial observations, and led by the spirit of system, draws general conclusions concerning the recession of the sea from the land, certainly reasons ill; but it is much worse to set physical truths at variance with Religion needlessly, and to treat the assertors of an opinion, whether well or ill founded, as hereticks. The Bishop of *Abo* and *Menander* have given a scandalous example of this, in mixing bad physicks with the revealed truths. The fury of those two men, which they found means to communicate to the body of the Swedish Clergy, went so far as to accuse the celebrated *Dalin* and *Linnaeus*, together with the most illustrious observers in the Kingdom, of heresy before the Diet in 1747, nor was the unfavourable reception they met with sufficient to appease them.

Perhaps the truth is, that the sea sometimes loses, and sometimes gains, not only in different situations, but also in the same in the course of years and ages. The daily and occasional causes of those changes are sometimes plainly seen, but oftener remain involved in darkness as well as other permanent causes of the revolutions, and their unknown periods.

reciprocally enforce one another, from one end of the earth to the other.

Of the small Islands adjacent to CHERSO and OSERO.

The small island, or rock of *Gutim*, which lies a mile to the eastward of the coast of *Cherso*, near the hamlet of *Belley*, would not be worth mentioning on account of its extent, which is not half a mile in length, nor for its products, because it is quite desert and uncultivated. The sea beats against it furiously on the north east side, and though it is defended by the roughness of the marble, yet even that is corroded apace, and the ruins of it are seen under the water. The concavities made by the waves are full of lichens, and stoney masses, which are of a fine pale red colour; and among them are great quantities of *Echini marini*, and generally one species only of *Bucini*, and two of *Patellæ*. There was, in former times, as the inhabitants of *Cherso* say, a monastery of nuns on this island, which is altogether plain, and might be made very useful. On one point of it, there are still some ruinous walls, but I did not go near them. Instead of nuns, it is now inhabited by a great number of rabbits, which find good pasture; the inner part of the island producing plenty of grass. The particularity that distinguishes *Gutim*, and makes it of importance in the eyes of a naturalist, is the fossil bones found there, in two places above ground. One of these is near the sea; and the other, which we could not find, tho' well known to the fishermen and shepherds, is in the heart of the island.

On the other side that is to the west of *Cherso*, and three miles from *S. Martino*, lies the island *Levrera*, peopled like-

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wife by rabbits only; it is plain, and about two miles long. The inhabitants of *Cherso* use to go there a hunting.

Nia, *Onie*, or *Unie*, is an island about seven miles in length, the ground of which belongs to the bishop of *Osero*. It lies to the west of *Osero*, has few inhabitants, and those excessively poor. I do not find it named by ancient geographers; in the low ages it is called *Nia*. Its principal product is fire wood, great part of it being woody. It might produce honey and wax in abundance, and cattle likewise; but it yields little of any thing, for those reasons which are well understood in our days, especially by those who apply themselves to the study of publick economy. The fishing round about *Onie* is a considerable product; it consists chiefly in tunny, mackrel, and *Sardelle*; but the poor inhabitants have not the means of profiting by it, and strangers come and reap all the advantage under their eyes. We did not land on this island.

San Pier de' Nembi, belongs as well as *Onie*, to the bishoprick. Many rocks are collectively called by this name: but the chief islands are only two, and between them lies a large and commodious harbour. The inhabitants have their houses all near one another, and form a poor village. There is also a convent of friars, which probably does not contribute to enrich them. There was, in former times, for the defence of the harbour, a kind of fort, of which some ruined parts remain, and a governor suited to the importance of the place.

In the ancient records, and inscriptions of the 14th century, these islands are called *Nieme*. A sea chart in my possession, which seems to have been made about the year 1340, gives them

them that name. The actual products of the island amount to very little value; though they might be made much more considerable. The rocks of *San Pier de' Nembi*, none of which are above two miles long, occupy about five miles of sea from north to south.

Two small islands situated to the west of *Ofero*, which are about seven miles round, go by the name of *Canidole*. The Sclavonian inhabitants of *Cherso* call them great *Stracane* and little *Stracane*. They are divided by a narrow channel of the sea. The people of *Loffin* cultivate a part of them, the soil being very manageable, and without any stones. It looks like the depositions of rivers of a long course, by which I mean a mixture of mud and very minute sand: the waters of the sea have certainly not triturated nor heaped it up in such a manner. This species of light ground is raised above the level of the sea, about twenty-five feet in the highest parts, and lies on a base of marble, analogous to the description which I have given of the lower strata of these parts in the last section. We stopt on one of these islands to dig up the greatest part of the fossil bones with which we returned loaded, and which now are distributed among the best *musæi* in England.

Sansego is a small island seven or eight miles to the westward of *Loffin picciolo*, fifteen from *Ofero*, thirty five from *Cherso*, and little more from the mouth of the *Arfia*, to which it lies opposite. In past ages, there was a monastery on this island, founded by *Pietro*, bishop of *Ofero*, about 1070, and some of the ruins still remain. It is much frequented by fishing boats, as being one of the principal places of passage of the Sardines. The bishoprick of *Ofero* is also proprietary of the lands of this island.

The inhabitants are about three hundred, poor and miserable beyond description. They dwell in wretched cottages on the highest part of the island: we entered one of them to see an ancient inscription, which the priest of the parish could not read, as those poor people told us. The cottage was so dark at mid-day, that we were obliged to read the inscription by candle light. There is only one aperture in those cottages, which serves for door, window, and outlet for the smoke; there are no division in the inside; not even a floor, excepting what the ordinary ground furnishes, and it is lower than the outside. From without, those miserable habitations do not seem intended for animals of our species; and indeed they look more like the holes of wild beasts than cottages. The soil of *Sansego* is not unfruitful, though it is as sandy as that of *Stracane*. It is however little cultivated, because the inhabitants are few, poor, and oppressed. They sow some corn, and cultivate the vine; but the nature of the ground does not agree very well with the olive. The base of the island of *Sansego*, is the usual whitish marble of those parts; fossil bones are also found there inclosed in their ordinary matrice, and accompanied exactly with the same circumstances as in other places. A hill of sand, about six miles in circuit, is raised on that stratum, which seems to have very little curvature, and forms the island. The sides of this hill are torn away by the rain waters, and precipitate on all sides into the sea, because they are not sustained by trees, which are but rare on the island. Those rents are also very deep, and ruinous, because the ground contains no kind of stones, but is composed of very minute sand, and of still more minute and impalpable fluviatile mud. In some places, where the rain waters do not tear the surface, they are often undermined below, and produce in time deep gulfs. This island, of which I do not find

find any particular name determined among the ancient authors, was, however, in ancient times, inhabited by people of some consequence, and perhaps was the villa of some rich Roman, settled in the colonies on the continent, or in the neighbouring islands. Some tables of greek marble, and pieces of sculpture not contemptible, are still to be seen there. The inscription mentioned above, and which will be inserted a little farther on, belongs to no ignoble family; nor is there the least ground to imagine that it has been transported thither from another place. The poor peasant, who built the house in which it is found, discovered it in digging the ground he was preparing for his wretched habitation, and did not even take the trouble to uncover the whole of it.

The situation of this island, and of the two *Stracane*, the distinct appearance of the various successive depositions disposed in strata, and its similarity to other neighbouring islands, seem to me to merit the reflection of an observer in investigating the origin. It is very remarkable to see an island, far from any large river, wholly composed, from the marble base upwards, of very minute fluviatile sand, and of that kind of sand which is only proper to rivers of a long course. There are actually no such rivers near the coast of the *Quarnaro*. It is, however, certain, that, in more distant ages, and in circumstances very different from the present, a large river run not far from the place where the ancient and noble castle of *Albona* now stands, and fell into the sea several miles further outward, passing, as the Po does at present, between low banks formed by its own sand. Without this, the island of *Sansego*, which lies at a good distance from the coasts of *Istria*, and is about two hundred feet in perpendicular height, could not have been formed. I shall offer

offer two reasons to support this opinion. The first is, because, in the fluviatile sand of *Sansego*, there is no vestige of marine bodies; and there are always some in the sand of the mouths of rivers. In the second place; it is certainly necessary, that the water of the river from whence the island was formed by successive depositions, must have run in a channel about two hundred feet higher than the actual level of the sea. The nice examination of the sand of *Sansego*, and the *Stracane*, in which neither sea salt, marine bodies, or fragments of them are found, lays us under an evident necessity of passing over a great number of ages in thought, to come near the *epocha* of the formation of those sandy strata. For this reason, I am inclined to prefer the supputations of those chronologers who have studied to give to the world the greatest possible number of years, with the view of rendering physical observations more consistent with the interpretations of scripture most generally received. In our case, we must either involve ourselves in inexplicable obscurity, or carry back our computations to very remote and unknown times, when the present islands of the *Quarnaro* were conjoined to the neighbouring continent. In considering this subject attentively, the unprepossessed geologists will naturally think of those ages, when the vast provinces, now submerged by the waters of the Mediterranean, introduced through the strait of Gibraltar, were dry land; or perhaps on those still more remote ages, which preceded the irruption of the Indian ocean from the straits of *Babelmandel* to the mountains of *Friuli*, forming that long channel which was afterwards interrupted by the isthmus of *Suez*. And without doubt, all, or a great part of that bay, in which the islands of *Veglia*, *Arbe*, *Pago*, and the larger, as well as the smaller *Apfyrtides* now lie, must have been a part of the continent, and a high part of it too, long after the two
irruptions

irruptions just mentioned. It is probable that the river waters first tore and discomposed, and afterwards the sea waters corroded that portion of main land which was united to those islands, or rather which was continuous on all sides excepting the exterior. The base, however, of the above mentioned islands, as well as that of the neighbouring coasts, was formed by depositions of still more ancient seas. The human understanding has not the needful data to calculate the thousands of years, that must have elapsed from the time of the induration of the base, to that of the depositions of which that tract of country was formed, whereof the small sandy islands are only remains; nor is it sufficiently instructed concerning the periodical successions of deluges, to comprehend how, and wherefore, the sea waters returned to destroy that which the rivers had fabricated on their ancient foundations.

Of this river, which without doubt run through *Istria*, and discharged itself into the Adriatick sea, the memory is much better preserved by the fluviatile sands of the islands, than in the works or fragments of ancient writers: and it is so clearly expressed, that it serves to confirm the various testimonies which are found, especially in the Greek authors of the best times, and which perhaps were founded on some residue then remaining, or perhaps only on venerable old tradition. *Scylax Cariandenus*, the most ancient of geographers, says, in his *Periplus*, that “beyond the *Veneti*, is the nation of the *Istrians*, and the river “*Ister*, that also runs into the black sea.” * And *Scimnus Cbius*, whose fragments were unjustly attributed to *Marcianus Heracleota*; “The *Ister* descends from distant western lands,
“ and

* Μετὰ δὲ αὐτῶν ἔστιν Ἰστρία, καὶ ποταμὸς Ἰστρος. εἰς τὸν ποταμὸν καὶ εἰς τὸν πόρον εἰσβάλλει.
Scylax Cariand. in Periplus. int. Geograph. min. Hudsoni.

“and discharges itself into the black sea, divided into five
 “branches. Another branch of it runs into the Adriatick, well
 “known by the *Celti*.” * And here it is to be remarked, that,
 under the name of *Celti*, the *Japidi* or Istrians, were also compre-
 hended. † *Pomponius Mela* reckons, among the rivers that fall
 into the Adriatick, a branch of the Danube, called also the
Ister. ‡ And in the same book, he expressly says, “*Istria* took its
 “name from the river *Ister*, a branch of the Danube, which runs
 “into the Adriatick, opposite to the mouths of the Po; and
 “adds, that the intervenient waters of the sea are rendered
 “sweet by meeting these two great rivers.” § *Pliny* absolutely
 denies the existence of this river, which certainly had disap-
 peared many ages before his time, and, with great appearance of
 reason, accuses *Nepos*, ** an inhabitant of the banks of the Po,
 who had, in some of his works, mentioned this as an actual
 river. Perhaps the learned naturalist had the same real reason in
 this particular, as one would have who denied, in our days, the
 ancient mouth of the *Oxus* or *Gibon*, in the Caspian sea, and
 the commerce that was carried on between the East Indies and
 Europe by that means. The Tartars, who have turned the
 course

* ————— Ο Ἰστρος ποταμός

Κατέρχεται ἀπὸ τῶν ἑσπερίων τοπῶν

τὴν ἐκβολὴν αὖτε εὐμασί ποιεῖται.

Δυσὶ δὲ σχισόμενος καὶ εἰς τὸν Ἀδρίαν ῥέει

Ἀμέλει δ' ἄχρ' Κελτικῇ γινώσκειται.

Scym. Ch. inter Geog. min.

† Ἰάπυδες ἔθνος Κελτικὸν πρὸς τῇ Ἰλλυρίᾳ. Διονύσια ἐκκαίδεκάτῃ. *Epitom. Steph. Byzant.*

‡ *Pomp. Mela lib. 2. cap. 3. Ex Danubio, qui jam dictus est, Ister.—per Istros Ister emittitur.*

§ *Pomp. Mela lib. 2. cap. 4. Padus—suum etiam in mari alveum servat, donec cum ex adverso litore Histriae eodem impetu profluens Hister amnis excipiat; hac re per ea loca navigantibus qua utrinque amnes eunt inter marinas aquas dulcium haustus est.*

** *Plin. l. 3. c. 18.*

course of that large river another way, by altering the circumstances, have not given a just ground to modern writers to accuse the ancients. *Trogus Pompeius*, according to his compiler Justin, takes notice * of an Adriatick branch of the *Ister*, or of a river communicating with it in the inland country, as a man might be expected to do of a thing hardly spoke of in his time, and of which no distinct vestiges were generally seen. Among later authors, the old tradition of its existence was almost constantly placed among the fables. The authority of Pliny, weighty of itself, and supported by a fact actually true in his time, when no such river was to be seen, and the want of exact and minute topographical knowledge of the country, deceived *Strabo* himself; † and made *Cluverius* also, though a diligent investigator, particularly of the Italian antiquities, join with the common opinion. ‡

And yet Pliny was not so demonstratively convinced of the impossibility of the ancient Istrian river, as might perhaps appear at first sight. And what sensible geologist will take upon him positively to deny the possibility of a thing, that depends on physical revolutions, of which we may every day see examples? The distance of *Istria*, not permitting him to examine the fact personally on the spot, he inclined towards the negative side.

P p p

If

* Justin. Trog. Pomp. comp. L. XXXI.

† Τινὲς δὲ καὶ τοὺς Ἰστρὸν ἀναπλεῦσαι φασὶ μέχρι πολλῆς αὐτῆς περὶ τὸν Ἰάσωνα· οἱ δὲ μέχρι τοῦ Ἀδριατικοῦ· οἱ μὲν κατ' ἀγνοίαν τῶν ποταμῶν· οἱ δὲ καὶ ποταμὸν Ἰστρὸν, ἐκ τοῦ μεγάλου Ἰστρου τὴν ἀρχὴν ἔχοντα ἐκβάλλειν εἰς τὸν Ἀδριατικόν φασίν. Στράβ. βιβλ. α.

Quidam etiam bonam Histri partem adverso flumine subvectum Jasonem cum suis tradunt: nonnulli usque in Hadriam, ignoratione scilicet locorum decepti, alii etiam Histrum quendam fluvium ex magno Istro ortum in Hadriam influere aiunt.

‡ V. Phil. Clav. Ital. Ant. ubi de Histria.

If he had been told that the *Tiber*, in distant times had its bed many feet higher than the present level; and that the vestiges and proofs are plainly seen, on the sides of *Monte Pincio*, in the great heaps of sandy *tophus* quite full of impressions of the leaves of the alder, willow, reeds and other aquatick plants, or such as grow by the sides of rivers, he would not have inconsiderately denied this truth.* *Monte Pincio* was too near, and the vestiges of the waters too visible; nor would it have satisfied that good observer to know, that, ever since the foundation of Rome, the *Tiber* had run with very little difference, in the same bed, or detained him from going to examine, with his own eyes, the foundations of the proposition, or from embracing it, after having found them manifest. The comparison of what he has wrote concerning the fish *Trichia* in Aristotle's words, which I took notice of in page 433, shews that he was disposed to entertain a more just opinion on this subject. Aristotle wrote expressly, " that this species of fish alone, was always caught by the fishermen in entering the black sea, but in coming out
" never,

* That the rivers have anciently run in much higher places, than they do at present, is very manifest. The river of the *Val d' Elsa* ran along the plains, and the disjunctions it made now form the hills of *Barberino*, between Florence and Siena; the Paduan *Brenta* once ran upon the plain tops of the hills of the *sette comuni*, which, by a gentle curvature, extended to the sea; and the Adige left manifest signs of its passage in the Veronese hills, now far distant from its actual course, and where the celebrated Signor *Giovanni Arduino* has made several excellent observations with a philosophical eye. The *Asico*, a dreadful torrent in the Vicentine, has dug out a bed for itself in its own ancient depositions of gravel; and not far from the village of *Piovene*, on the flanks of the celebrated *Monte Summano*, this excavation is in some places above two hundred feet perpendicular, and the correspondence of the gravelly strata is seen on both sides. These observations are less or more applicable to all the rivers that take their rise in the mountains.

“ never, or very rarely, and looked upon as a bad omen; * and
 “ giving the reason, he says, that it swims up the Danube,
 “ against the stream, till it comes to the division of the river,
 “ where, passing from one branch to the other, it descends in-
 “ to the Adriatick.” Pliny, in speaking of the *Trichia*, does
 not name Aristotle, though he copies his words, altering only
 those which regard the divergency of the river, to adapt them
 to the state in which things were in his time. “ Of all the
 “ fishes that enter the black sea, the *Trichia* is the only one that
 “ does not return back again. And it is also the only one that
 “ enters into the Danube, and swims against the current, till
 “ it finds the way, by subterranean veins, to pass into the
 “ Adriatick.” † If Pliny was inclined to allow a subterraneous
 communication between the Danube and the Adriatick, with-
 out having in person examined the country under which that
 communication probably must pass, that is, the tract of land
 which forms the narrowest distance from the bed of the river to
 the sea shore, how much further would he have gone after an
 accurate examination? He would have found, by being on the
 spot, and anatomizing the bowels of that part of the continent,
 that *Istria* and *Liburnia* are formed by vast beds of marble, divid-

P p p 2

ed.

* Οἱ δὲ τριχίαι μόνοι μὲν ἰχθύων εἰσπλέοντες μὲν τὸν πόντον ἀλίσκονται, ἐκπλέοντες δὲ ἔχῃ ὁρῶνται·
 ἀλλὰ ὅταν δὲ ληφθῇ τις περὶ βιζαντίον, οἱ ἄλλοις τὰ δίκτυα περικαθαιρῶσι, διὰ τὸ μὴ εἰσδέναι ἐκπλεῖν-
 αῖτιον δὲ, ὅτι ἔτοι μόνοι ἀναπλέσιν εἰς τὸν Ἰστρον, εἰδ', ἢ σχίσται, καταπλέσιν εἰς τὸν Ἀδρίαν.
Arist. Hist. Anim. l. 8. c. 13.

*Omnium piscium soli Trichiæ intrantes Pontum capiuntur, exeuntes nunquam conspi-
 ciuntur. Et si quis eorum apud Byzantium aliquando capiatur, piscatores retia lustrant,
 quia exire minime consueverunt. Causa est quod hi soli subeunt Istrum, ac mox ubi
 flumen finditur defluunt in Hadriam.*

† *Intrantium Pontum soli non remeant trichiæ——Sed hi soli Istrum amnem sub-
 eunt; ex eo subterraneis ejus venis in Adriaticum mare defluunt; itaque & illinc de-
 scendentes, nec unquam subeuntes e mari visuntur.* C. Plin. Nat. Hist. l. 9. c. 15.

ed horizontally by strata of ochre easily dissolved, and which may be carried away by little water. He would have understood, that the slow dissolution and asportation of the ochre placed between the marble, must have thrown the strata out of equilibrium, and caused them to split and fall in of themselves for want of an equal base. Nor would he have stopt here; but passing rapidly in his mind from stratum to stratum, and from dissolution to dissolution, he would have imagined the erosions, and the thousands of years necessary to produce a whirlpool or gulf, or to sink a large hollow on a sudden. The prodigious number of ancient gulfs, and vast caverns, which are every where met with in those provinces; the frequent formation of new ones; the inequality of the ground, which bears evident marks of an habitual succession of ruins; and the waters, which in large quantities, run to the sea through those vast subterranean passages, would altogether have made a strong impression on him. Perhaps he also would have attributed the deviation of the pretended branch of the river *Ister* to a combination of such accidents, and, extending his observations as far as the *Timavus*, (which he knew, as well as *Possidonius*, had in former times had a longer course above ground, till deviated by a sudden gulf, it was forced to run many miles under ground) he would have seen, that the analogous structure of the hills of those countries, would naturally produce analogous effects. And I dare say that Pliny, as a sensible cosmologist, would have attributed the total defacement of those provinces, in a great measure, to the successive constancy and variation of the hills.* And if he had added to these observations, that *Istria*, though situated at the foot of mountains, has no considerable rivers in
our

* V. Possidon. testim. ap. Strab. l. 5. & Plin. l. 2. cap. 103.

our days; that, in the inland parts of it, immense deposits of fluviatile sand are found almost pulverised; and in higher parts there are small stones, and exotick pebbles that have been rolled many years before the sand; that the rivers of that country either issue from the bottoms of the hills, almost formed; or if, like the *Arfia*, they appear to derive their origin from lakes, these have been evidently produced by the sinking of the marble strata, the correspondent parts whereof still surround them; I say, had Pliny compared all these circumstances together, he would not have accused the ancient Greek geographers of falsehood, nor thought himself under the necessity of somewhat mutilating the text of Aristotle, whose positive assertion he did not chuse to contradict. And moreover, if he had particularly examined the banks and mouths of the *Arfia*, he would have seen, that they are by no means proportioned to such a pitiful stream as that river now is; but that its vast bed, among hills of marble, must have been excavated in former times, by an infinitely superior force, and filled with a much more considerable quantity of water.

Appearances, and repeated observations, induce me to believe, that the quartzose sands deposited in various parts of *Istria*, and the sand on the island of *Sanfogo*, have both been brought from the same country, and that they have been accumulated by the inundations of the ancient river that run in the bed of the *Arfia*, particularly on the right side of the river, the ground being too high on the left, along the roots of the hill, which we call *Monte Maggiore*. The sandy islands of the *Quarnaro*, are also situated on the right side of the actual mouths of the *Arfia*, thirty miles in the sea, and about eight miles from the mountainous islands of *Cberso* and *Osero*, which were anciently continuations

uations of the hills of the continent, as the correspondence of the strata interrupted by the sea in later times shews beyond a doubt.

If physical proofs, deduced from a diligent inspection of the country, add weight to the respectable authority of the ancient geographers, and historical poets, notwithstanding the disapprobation of *Strabo*, *Diodorus Siculus*, and other writers of lesser note; a visible and palpable monument of the division of the *Ister*, and of its double mouths, which is found in *Goltzius*, may perhaps afford the last degree of force and evidence. * Among the most remarkable Greek coins published by that celebrated antiquary, there is one which bears two heads turned in an opposite direction, and on the reverse it has an eagle and a dolphin with the name of the nation *Ιστριων*. I have seen four of these coins, not all done at the same time, in the royal museum of *Capadimonte* at Naples.

The first who explained this monument, which in the present case is very valuable, was Gerard *Vossius*, in his annotations on *Pomponius Mela*, who interpreted the two heads as emblems of the *Ister*, which discharged itself in two different seas, according to the opinion of the people by whom the coin was struck: *Nonius* also, the commentator of *Goltzius*, attributed the coin that carries the national name of *Ιστριων* to the *Istropolitani*; though the name itself seems rather to denote the Istrian Nation, and not to have belonged to the Istropolitan community, as, in that case, it would have been wrote *Ιστρωπολιτων*. †
I do

* *Goltzius in Nummis Græc.* T. 3. Op: Tab. 28. N. VII.

† [*Istro proxima est Istropolis*]. *Plures Istron appellant, & sic quoque veteres nummi apud Goltzium & alibi, in quibus manifeste scriptum Ιστριων Ionice pro*

I do not think I need to enlarge further, to magnify this new proof of the existence of the Istrian river, or to take notice how unreasonable it would be, and of how bad an example to maintain, even in contradiction to the ancient coins, that the divergency of the Danube has always been fabulous, or *its communication* with some river that discharged itself into the Adriatick. I know very well, that the illustrators of the Istrian antiquities believed, that this monument ought to be applied in another manner: but it cannot be thought a want of due deference to them, if, uniting this nummery proof to the others drawn from a physical observation of the province and the neighbouring countries, I endeavour to set it in a more interesting light. The learned esteemers of ancient coins, who know how much credit is due to them, and how much advantage and perspicuity the history of distant times has always derived from them, are in some measure bound to patronize my cause.

If the physical proofs and conjectures which I have collected, appear as conclusive to others as they do to me, and consequently place beyond all doubt the course of an ancient river, which, passing along the bottom of the hills *Ocra* and *Albio*, as seems most probable, and traversing *Istria*, discharged itself
into

pro Interpretum Ab adversa parte duo capita adparent sibi invicem juncta, altero tamen inverso. Quærent multi quid sibi velint adversa ista capita. Ego Istri fluminis imaginem esse puto. Nam cum alia flumina exeant in idem mare, solus fere Danubius, vel Ister, in diversa maria diversis & contrariis exire capitibus credebatur: nempe in Pontum Euxinum, & in Adriaticum. Ostia vero fluminum passim capita appellari a Latinis & Græcis licet minus proprie, cum potius fontes appellari debeant, notissimum est. Isaac. Voss. Observ. in . Melam. 38.

into the sea, in ages not so very far from the historical times, and posterior to the expansion of the ancient rivers over the vast plains, which now, being interrupted by the vallies, exist only in part on the tops of the Morlack and Illyric mountains, the small island of *Sansego* ought henceforth to be esteemed less obscure and ignoble. Being acknowledged as an incontestible monument of the existence of a large ancient river in Istria, besides its merit in the most remote history of the Provinces adjacent to the Adriatick, and particularly of the illustrious Cities which boast of the Argonauts and Colcheseans as their founders, hitherto inconsiderately confused with fables, it will also perhaps contribute to raise among us a more just esteem for natural history, which is still despised and derided by many as an useless study, notwithstanding the improvements of the age, and the example of the other polite nations of Europe.

Ancient Inscriptions.

Though after the illiterate *Brigii* and *Colchese*, who settled in the islands of *Cherso* and *Osero*, it was well known to the Greek navigators, and probably often visited by the merchants of that Nation, and perhaps inhabited by them, yet no monuments belonging to them now exist there. In former times, however, there were some, and *Sebastian Giustiniani*, in an account he gives of Dalmatia and the adjacent islands, written about the middle of the 16th century, says, that, in his time, there were many Greek and Latin inscriptions in *Osero*. Some few of the last still remain: but it may be supposed, that those, who carried away the Greek, will also have taken the best of the Roman inscriptions, if the ignorance of the inhabitants has not

not destroyed or buried them. I find in a small collection in prose and verse, printed about the end of M D. in praise of *Sebastiano Quirini*, Count of the island, that there had been dug up, near the City of *Osero*, a very beautiful statue of Greek marble and workmanship, which was placed in the court of the *Grimani* palace at S. *Maria Formosa* in Venice. The author says it represented *Medea*, and praises the workmanship greatly. At present no statue is to be seen in the *Grimani* palace agreeable to the description of that found among the ruins of *Osero*.

The following are the few inscriptions that now remain above ground in that island, and which *Mons. Dinarizio*, the late Bishop of *Osero*, of pious memory, collected from various parts of the diocesis, and placed in the *Vescovile* palace, to prevent their being spoiled, or hid.

I. L I C I A E . I N .
 A E . D V L C I S S I . .
 A N N I S . X I I . B E . .
 F I L . C A S T I S .
 A S I M P L I C I A . .
 A M A N T I S S I M A .

This inscription, which in itself is of no importance, merits rather the observation of naturalists than of antiquaries. It is of greek marble, and remained a long time under the sea water. The *Foladi*, or *Datteri marini*, had taken possession of it, and from thence it is perforated. This is a demonstrative proof against M. de Reaumur, that the *Foladi* do not want instruments to perforate the stones in which they settle, and that it must

Q q q

often

often prove a mistake, to believe they had opened a passage into the clay, or mud, before the strata were hardened under the sea waters. Hence all the deductions of that celebrated academician must fall to the ground, not only concerning the wonderful age of the *Foladi*, but also concerning the no less wonderful speedy induration of the submarine strata. *

II. TI. CAESERI. AVG. F.
AVGSTO. PON. MAX.
G. AEMILIVS. VAL. F. OCLA.
L. FONTEIVS. Q. F. RVFVS
II VIRI. PORTICVM.
CVRIAM. D. D. FACIVNDVM
CVRAVERE. IDQVE. PROBAV.

This stone was found at *Caifole*, from whence several others were transported to *Ofero*. Perhaps, by diligence, the means might be discovered of illustrating this monument, as well

as

* As this inscription has served to illustrate a point of natural history, I think I may be permitted to add here another observation relative to the *Foladi*, and which I also owe to an inscription found under water; that was, and perhaps still is, at *Torcello*. It is engraved on volcanic *lavi*, or *granitello* of the Paduan hills. Neither the *Foladi*, nor any other species of marine creatures had bit or lodged in it. By extending my observations in our canals, and in various places about the city, I have found that the *Foladi* never lodges in volcanic stones; sometimes an accidental insect is found on it, but never bites. Nor have I hitherto found *Foladi* lodged in vitrescent sand stones of rough grain. From these constant observations I thought I might conjecture that the *Foladi* hollows and enlarges its habitation in calcareous marble, by means of a corrosive liquid which it can emit at pleasure, but which has no effect on the vitrifiable stones. It is true that the *Foladi* does not love brick, on which acids act powerfully, when not burnt to a total vitrescence, but it has always a lesser or greater degree, and therefore perhaps is disagreeable to the *Foladi*.

as the place, which, in other times, appears to have been *Caput Insulae*. And by comparing circumstances, the bad orthography of the words CAESERI and AVGSTO might be accounted for. One of the duumvirs is perhaps the son of that *Valerius Oclatinus*, of whom we find the tomb was prepared, before he thought of dying, by his daughter *Procilla*, in the following inscription.

III.

V A L E R I
O O C L A T I
N O A E D I I
V I R O Q Q V A
L E R I A P R O
C I L L A F P A
T R I V V F

Valerio Oclatino Aedili Duumviro Quinquennali Valeria Procilla Filia Patri Vivo Vivens fecit. It is observable for the V V F, which may, I think, be explained as above.

IV.

I M P. C A R I.
A V G N o
I M
T R I B V N I . P O T . I I . C O N
P P . R E S P V B D D .
X X I I I .

Imperatori Caesari Trajano. . . (or Hadriano) . . . Imperatori Tribunitia Potestate III. Confuli . . . Patri Patriae Respublica (the name is wanting, and it is a pity) *Decreto Decurionum XXIII.* It is cut on the stump of a column little more than two feet high, and

Q q q 2

about

about a foot in diameter. It was transported from *Cavifole*, or *Caifole*. Perhaps it was the base of an imperial statue, or denoted the dedication of some temple, or Basilick. The number XXIII might cause it to be taken for a miliary column placed on the road side.

V.

A R T I F I C I
B V S. M I N E R
B A B V L L I A
S E X. F. M A X I
A. V. S.

Artificibus Minervis Babullia Sexti Filia Maxima Votum solvit.

I had read this inscription the first time with the eyes of a mineralogist, and my interpretation was ridiculous enough. The stone is like the base of a statue. It is votive, as every one sees by the two letters V. S. There was more than one Minerva among the devout ancients, as there was also more than one Juno. Spon gives us one in which we read IVNONIBUS SACRUM, &c.

VI.

S E X. I V L I. A G A
T H O P I. E P H E B V.
A N. V I I
T E. T E R R A. O P T E S T O R
L E V I T E R. S U P E R. O S S A
Q U I E S C A S. E T T E N E
R A E. A E T A T I. N E. G R A
V I S. E S S E. V E L I S.

This

This stone was found among the ancient ruins of *Oféro*, under ground. It is of the good times, and valuable. The V instead of an O in the word EPHEBV may be an error of the engraver: but it perhaps denotes the genitive of Εφηβου pronounced after the Greek manner, Εφηβου.

VII. C. LVCRETIO
SEX. F. A. IX. H. S.
CAI FILI A TE SECVND

Caio Lucretio Sexti Filio Annorum IX. Heic Sito Caj Fili a te secunder. It is observable for the unusual prayer.

VIII. VENERIAE
CN. F. PRIMAE
CRISPVS HILA
RI. SVLP. FECIT.

The sepulchral inscription of *Veneria* is indeed of no importance, and the following fragment is no better: but we ought not, on that account, to deny praise to him, who took the trouble to preserve them. It happens frequently, nay almost always, that the habitude of preserving from destruction the things of little value, saves those of the greatest importance, which otherwise would perish, if left to barbarism and ignorance.

IX. ..SIVS. OPI...
..C. AEDIL. R

X.

X. PRIMITIVO
FILIO
ANN XXVI
MENS V
PRISCILLA
ET
SVCESSVS
PARENTES
INFELICIS

The above is in the sacristy of the church of S. Isodoro in
Cberfo.

XI. SEX. IVLIVS. C. F. NIGER.
AED. IIVIR. V. F. SIBI.
ET. IVL.....ET. FR.
IN. FR.....A.
TERGO.....M.

This sepulchral monument is half buried in the squalid cot-
tage of a poor peasant, in the beautiful and ill cultivated island
of *Sansego.*

...SIVS...
...C. AEDIL...
R

A LETTER

A LETTER TO

JOHN SYMONDS, Esq;

BY WAY OF APPENDIX TO THE ESSAY OF OBSERVATIONS ON THE ISLAND OF *CHERSO* AND *OSERO*.

THE desire of rendering my book of observations on the island of *Cherso* and *Osero*, which is the result of the voyage made last year in your company, and that of the learned Dr. *Cirilli*, less imperfect, had made me project to cross the Adriatick again. Our courteous hosts invited me, and my own health required a change of air; but several causes concurred to detain me. A genteel invitation from your illustrious friend the Bishop of Derry removed all hesitation. I passed the gulf, animated by the desire of residing some days with so learned and amiable a person, and met him at *Pola*. You are already informed, that, on account of some suspicions of the health office, we were obliged to keep forty days at a distance from the island; that the fresh eruption of *Vesuvius*, announced in the news papers, was a temptation we could not resist; and accordingly we passed over from *Rovigno* to *Ancona*, in hopes to get in time to a part of the feast; but at Rome had the unwelcome news that the mountain was become quiet. You may imagine we did not fail

to

to observe, on the road from *Ancona* to Rome, all the variety of earth and stones, all the vestiges of subversions, the remarkable waters, and all the remains of architecture, and to take notes on the spot. At Rome we saw again one of the tables of elastick marble belonging to Prince *Borghese*, which surpris'd all the naturalists, who have seen it hitherto, and seem'd inexplicable to the Mecænas of natural history, Lord *Bute*, who in profound knowledge is equal to any of the most experienced professors.* Having staid at Rome long enough to gratify the genius of young Mr. Hervey, equally eager in the study of architecture, and natural history; though we spared him the task of looking at all the trifles and insignificant fragments usually impos'd on foreigners

ers

* The elastick marble preserv'd in the house of Prince *Borghese* at Rome, is less celebrated than it really ought to be. The wonderful properties of this fossil are unknown to many of the learned men of that capital, and seem incredible to foreigners who have not seen them with their own eyes. F. *Jacquier*, a celebrated mathematician, has given a description in the literary Gazette of Paris, but the naturalists cannot be contented with it. If permission was given to make the requisite experiments, this curious phenomenon might be better illustrated. There are five or six tables of that marble; their length is about two feet and a half the breadth about ten inches, and the thickness a little less than three. They were dug up, as I was told, in the feed of *Mondragone*; the grain is of Carrarese marble, or perhaps of the finest Greek. They seem to have suffered some attack of fire: though the first degree of pulverization observable in the angles, can, perhaps, scarcely be called that of imperfect calcination. They are very dry, do not yield to external impression, resound to the hammer, like other congenerous marble, and are perhaps susceptible of a polish. Being set on end, they bend, oscillating backward and forward; when laid horizontally, and rais'd at one end, they form a curve, beginning towards the middle; if placed on a table, and a piece of wood or any thing else is laid under them, they make a salent curve, and touch the table with both ends. Notwithstanding this flexibility, they are liable to be broken if indiscreetly handled; and therefore one table only, and that not the best, is shewn to the curious. Formerly they were all together in the Princess's apartment on the ground floor.

ers who visit that city; we pursued our journey to Naples, observing all the way, and entertained with the acute remarks of our young fellow traveller, who every post presented us with some curious stones, and gave an account of the differences in the substance and course of the strata. We found that the volcanic hills, at the foot of which Rome stands, and which begin to appear on the road under *Otricoli*, end a few miles beyond *Valletri* near *Casa-Fondata*; and that they begin again at *Mola di Gaeta*, and extend all the way to Naples, exhibiting a great variety of combinations to the eyes of an observer. We paid our visit to Vesuvius, which was in so good a disposition to suffer itself to be seen after the late signs of wrath, that we were perfectly satisfied with the observations we were permitted to make in the great crater, as well as on the brinks of the interior gulf. The thick arsenical, ammoniacal, vitriolick and sulphureous smoke did not suffocate us, no more than the *Mofete*, though repeatedly tried. The *Solfatara* appeared to us an object still more interesting than *Vesuvius*; I was twice in it, the first time in company with *Don Giuseppe Vairo*, a learned professor of chemistry, intimately acquainted with the *Solfatara*, and with all its secrets. By his assistance I saw more of it in a few hours, than another could do in many days, without so courteous and learned a companion. We also visited with due veneration, the environs of *Pozzuolo*, *Ercolani*, and *Pompejano*, and paid our respects to the *codices* preserved at *Portico*, with the reasonable sentiment of an earnest desire to see them opened. In fine we left Naples, after no very long stay; enriched with informations and observations, which this is not the proper place to give an account of. We crossed over the Apennines in our way to *Manfredonia*, and had the opportunity of observing where the volcanic matter ends. We did not go to the salt mines of *Monte*

R r r

Mileto,

Mileto, which the king keeps guarded, that the inhabitants of the country may not use the salt; to them probably is owing the saltiness of the wells of *Grotta-Miranda*, and the neighbouring places in the heart of the Apennines. We collected, on the tops of the highest hills, flutated stones full of marine bodies. In some parts, strata of sand, and testaceous bodies occupy the tops of the hills, as under the city of *Ariana*, where a good collection of petrifications well expressed might easily be made. It is also curious to see, at three miles distance from that city, the flutated pebbles, which being reduced to a very white dusty calx, without the action of fire, continue still wrapt in marine fluviatile mud, indurated by a force very different from vulcanic. The country round *Ariano*, for ten or twelve miles in circuit, is all of this mud and sea sand, combined in various ways, and more or less containing *testacei*. But I perceive I am going too far from my present purpose. We descended through the desolate plains of *Puglia* to *Manfredonia*; there we embarked, without seeing your Prior of *Monte Gargano*. We passed through the islands of Dalmatia, where we frequently found deposites of fossil bones; from thence visiting the littoral towns, and *Morlacchi* on the continent; searching for the vestiges of ancient rivers, and discovering them on the tops of the hills, and in the deepest horror of caverns; meeting, in the interior parts of the country, with many vulcanic hills, and recent marks of earthquakes, and enjoying the most cordial hospitality, as well among those woods, as in the more polished maritime places. After all this journey, of which, in a short time, you will see the particulars and observations described, leaving the continent we passed over to *Osero*, and from thence to *Cerso*. There I was deprived of his Lordship's agreeable company, who, being recalled to your fortunate islands by pressing affairs, pursued his journey through Istria,

Istria, to avoid a precarious voyage by sea; but the rare qualities which adorn that noble prelate, remained deeply impressed on my mind. I found some changes in the city of *Cbersò*. The two fetid pools, which were a great nuisance, had been filled up through the paternal attention of the nobleman *Giambattista Cornaro*, who, a few months ago, was sent thither from Venice as governor of the island, and who has every quality to render himself both agreeable and useful to any community over which he presides. He has taken the needful measures to have the shallow bay of sea water within the city properly cleared and deepened in the course of next winter. Some of the principal inhabitants propose to make new plantations, and to assign funds for maintaining a publick school. I know not whether our counsels and suggestions have had any part in these improvements, but I confess my self-love felt some secret emotions on seeing such good beginnings in that city.

In the fossil history I found but little new. There are, in the neighbourhood of *Osero*, vulcanic stones; and that is perhaps, the most important article of my further observations; because it contributes to confirm the conjecture that subterraneous fire has, some way, had a part in raising all the hills formed under the ancient waters of the sea; as it is allowed to be the only architect of those that rise out of the earth, like *Monte Nuovo* of *Pozzuoli*, and the little hills that were thrown up from the roots of *Vesuvius*, in 1760, to the height of a hundred feet. That the fire has acted under ground in some other parts of the island, without issuing through any aperture, or throwing out lava, seems to be proved by several deposits of *Saldame*, which, as I have also had occasion to observe in the vulcanic hills of *Morlacchia*, is usually nothing else, in those parts, but the pulveriza-

tion of sand stone, produced by the calcination and dissolution of the tophaceous or tartarous interstices, that held the particles connected together.

A mass of earth, of a light blue colour, and which has every appearance of being aluminous, deserves to be attentively examined. It is on the sea shore below the castle of *Lubenize*. I was not able to make any experiment on the spot for want of time, and the necessary instruments. There is not, however, need of much diligence or time to discover, that as almost all the islands of Dalmatia abound in fine marble, some pieces of which I have brought along with me, so the island of *Cberso* is well stored with it. In several buildings of the city, the *breccia* of the neighbouring hills has been employed, and has an excellent effect, being not inferiour to the most valuable African, either in hardness or beauty of the colours.

Accident led me to find out that a *literato* of the 16th century, accused of having had the weakness of denying, or at least dissembling his native country, actually belongs to *Cberso*, and ought to be restored to that island: the people of *Cberso* have cause to be proud of him. *Francesco Patrizio*, a philosopher, poet, and philologist of great name, who made a great figure in his age, and had views superior to the studies of those times, was born in the island of *Cberso*. A writer on Illyric affairs, whose voluminous manuscript work was courteously entrusted to me by Dr. *Antonio Danieli* of *Zara*, well known for his collection of antiquities, says, that the obscurity, or rather ignominy of his birth, obliged that great man to conceal the place of his nativity.*

These

* *Edidit Crexana Civitas ætate nostra præstantissimum virum politicarum literarum, & Platonice doctrinæ in Europa facile Principem, qui dum Romanæ Academiæ a Clemente*

These accusations do not appear to me to be altogether well founded; and it is even plain, that the little attention used by some in reading and writing, has made him Sanese, Farrarese, Venetian, and I know not what. There are proofs in his own writings that he was related to the noble family *De Petris*, which is distinguished among the principal families of the island. This man was a prodigy of learning in his times, and would have proved a bright luminary of the revived philosophy had he been born a little later, or could he have explained himself with more liberty, by professing the sciences in places less subject to fetters than Ferrara and Rome were. He had thoughts concerning the primitive state of our globe that were not common; and in one of his dialogues intitled *Il Lamberto*, laid down precisely the same theory which your Burnet, a century after, appropriated to himself, copying it almost word for word. *Patrizio* durst not expose this as his own system, as it would have displeased the scholastic theologues of those times, who believed that the cataracts of heaven had more water to furnish towards a deluge than the abysses of the earth; and therefore he made it pass for a cosmological tradition, which had gained credit in *Abyssinia*, and was found written at large in the annals of *Ethiopia*. Though the theory of the earth imagined by *Patrizio* is liable to many exceptions, yet it cannot be denied that it is ingenious, and it is but just that the plagiarist bishop should restore the glory to the author.

The

Clemente VIII. præpositus omnium in se oculos converteret, ibidem diem extremum clausit, Franciscus Patritius appellatus; qui tamen maximo Philosophici animi præjudicio, ex eo, quod humilissimo loco apud suos nasceretur, natales occultare studens Senensem se civem maxima cordatorum virorum admiratione in fronte lucubrationum suarum scripsit. Audivi etiam a fide digno viro id non tantum egisse occultandæ humilitatis quam sacrilegorum natalium gratia; fertur enim rurali Sacerdote agri Crexani patre genitus, &c. Ex Dialog. mss. de Illyrico, Cæsaribusque Illyricis, Jo. Tomco Marnavich.

The thoughts he has left us in the *Lamberto*, concerning the revolutions of our globe, are bold and ingenious ; but those are no less profound and sublime, which he has extended in the *Contarino*, in which he gives an account of a long cosmological discourse pretended to have been made by the old Egyptian hermit *Ammun* to the Archbishop *Antonio Marcello de Petris*, who met with him on his journey to the holy land. The learned solitary spoke to him about dissolutions, and renovations of the world as if by way of prophecy, but in such a manner as notwithstanding he has wrapt up his conjectures in Platonic darkness, and expressed his ideas in a language like that of *Trismegistus*, the metaphysical contemplator discovers himself as well as the diligent observer of natural phenomena. *Patrizio* was really such, as appears by his works, and particularly the *Nuova Filosofia*. In the twenty-seventh book of his *Pancosmias*, treating of the motions of the sea, he describes the *Euripus* of *Osero*, comparing it to that of *Chalcis*, into which Aristotle is said to have thrown himself, because he could not comprehend the cause of the tide.* He made many voyages by sea, and joining his own observations with those of others, formed a series of the known *Euripi*, some of which suffer no violence of flux and re-flux, and others in various degrees. The *Euripus* of *Chalcis* suffers estuation seven times a day : but near the city of *Osero* in *Liburnia* there is the narrowest *Euripus* of all. “ In it, says our philosopher, I have seen the sea rise and fall more than twenty times a day, and I staid several days there on purpose to observe this phenomenon. It is about fifty paces long, and not ten broad ; its depth is about seven feet.” He has not perhaps been so happy in explaining this curiosity, as he was exact in observing it. It

* *Pancosmias* lib. 27. *De maris universi motibus*. p. 135.

It is evident that the currents, winds, and flux and re-flux force into the large and deep bays which lie at each end of the *Euripus* a quantity of water disproportionable to the narrowness of the passage. The different combinations of these causes, producing greater or lesser resistances in the outlet, a greater or lesser number of daily estuations follows, as well as the various degrees of their violence. As in his sea voyages he made many and curious observations, so when travelling by land, he did the same relative to fossil history, astronomy, and meteorology; he mentions that he went in person to interrogate some fishermen in the mouths of the *Arfia*, on whose boat a flying ball of fire had stopt, and broke there without doing any harm.* And in the island of Cyprus he was overtaken, in the plain of *Collopfida*, by a sudden shower of rain, accompanied by a great deal of lightening, which wetting him from head to foot covered him with an infinity of shining points. To this purpose he takes notice of the phosphors of the sea water; and reasons concerning light in a very satisfactory manner. He also discourses sensibly on the real influence of the heavenly bodies on sublunary things, confuting astrology, and treating it with ridicule, though much in vogue in those times.†

I thought it not amiss to enlarge a little in speaking of this man, though without giving an extract of all his works, which would be too tedious, chiefly to renew his memory in the island where he was born, and to restore, to the noble family from which he sprung, the splendor it justly derives from him.‡ I

I would

* The long observations made on the channel of *Osero*, and this excursion to the mouth of the *Arfia* prove, that *Patrizio* had come to live sometime in his native country after he was far advanced in his studies. *Pancosmias*, lib 15.

† *Pancosm.* lib. 21. *An stellæ aliquid agant.*

‡ In the dialogue entitled *il Contarino*, our *Patrizio* says, that the friar *Antonfrancesco Marcello Patrizio*, general of his order, afterwards archbishop of *Patras*,
and

would think myself happy if the example of so learned a countrymen should stimulate those islanders to the love of study. The people,

and lastly bishop of *Cittanova*, was his grandfather's brother. Now this friar, who was agent for the city of *Cherso* at Venice, and at whose instance the senate ordered it to be made a walled city, as it is at present, is called in the records of his country, and in the ducal letters inserted therein, *F. Antonio Marcello De Petris*, from whence *Petrizio* and *Patrizio* were derived. *Francesco* bestows great elogiums on this bishop, calling him *a man of profound science, and admirable eloquence*, and *Palladio Fosco*, and *Luca Weddingo* make the same honourable mention of him. The bishop is buried in the church of the conventual friars at *Cherso*, who have covered his sepulchral inscription by the basis of an altar built a few years ago, without even keeping a copy of it. Thus in general the friars value and respect the learning both of the living and the dead. But to return to our *Francesco Patrizio*, or *de Petris*. Besides his own testimony concerning his country and family, we find him called a noblman of Dalmatia by *Annibale Romei* in his *discorsi* printed in 1585 by *Ziletti Gior.* i. p. 4. *Giro Spontone*, in his *Bottigaro Dial.* 4. Verona 1589. p. 11. calls him *a native of Osero in Slavonia*, which agrees well enough with what others have said, as the family *De Petris* is one of the most ancient noble families of *Osero*.

Francesco was born in the year 1529. At nine years of age he left the island, having been probably sent to Padua for his education. He lived there esteemed and loved by several illustrious young men, one of whom was afterwards Pope Gregory XIV. *Agostino Valiero*, and *Scipione Gonzaga*, who both became cardinals, were his friends; and cardinal *Girolamo della Rovere* made him a present at parting of a beautiful Greek copy of the discourses of *Hermes Tremegistus*, which *Patrizio* published, with a translation and notes, when he was in an advanced age. About 1557 he composed a poem entitled *l'Eridano*, but the verse of thirteen syllables, which he made use of, was not liked. In 1562 he published ten dialogues *de arte oratoria*; he went to Cyprus, and staid there some time; I know not when he returned to Italy, though probably, by reading his works, the time might be found. He was at Venice in 1568, and returned to Cyprus with the archbishop Primate *Filippo Mocenigo*, with whom he also came back to Italy; he laments in several parts of his writings the losses he sustained in the revolutions of that kingdom. He went from Genoa to Spain in 1574, and in 1577 was elected professor in the university of *Ferrara*; and the same year made some physical observations

people, now full of superstitious prejudices, would profit by the philosophy of the few, as is the case in polite cities. The common people of the city, and the peasants of the island, and on the contiguous rocks, have all the prejudices, foolish credulity, and superstitions which might be expected among the nations from whence they are descended. They believe all the idle stories that are told about vampires, called *Bilfi* in their dialect. The

S s s

tales

vations in the environs of *Modena*. Ten years after that he was in *Romagna*, and assisted with the duke *Alfonso II. d'Este* and cardinal *Lancellotti* at a conference concerning some differences that had arisen between *Bologna* and *Ferrara* about the falling of the *Reno* into the *Po*. He printed his *Discussiōni Peripatetiche* in 1581, and in 1583 his treatise *della Milizia Romana*; and five years after, his *Le Diche Poetiche*. *Teodoro Angelucci* wrote a large volume against him in favour of the Aristotelics, and *Patrizio* answered him in an apology directed to the famous *Cesare Cremonina* in 1584. The year following he wrote in favour of *Ariosto*, against the partisans of *Tasso*; and in 1587 he had some literary disputes with the troublesome pedant *Mazzini*, who, according to the custom of his race, was the first to attack him, and without cause. *Clement VIII.* was his great friend; and, when a cardinal, wrote to him frequently. On being made Pope, he immediately called him to Rome, and appointed him professor of Platonick philosophy in that university. *Patrizio* was established there in 1592, notwithstanding the opposition of cardinal *Bellarmino*, a great protector of Aristotle, whom our *Patrizio* had treated with little respect in his publick lectures at *Ferrara*, and had been taxed with presumption and innovation on that account. The Scolastics would probaly have hindered the publication of his *Nova de Universis Philosophia* by means of the inquisition, but the duke of *Ferrara's* protection and favour for the author defended him. The work was printed with some annotations and censures of a certain friar *Jacopo da Lugo*, inserted here and there at the end of various dissertations, and which ought rather to have been placed among the *Epistolæ obscurorum virorum*. In 1594 he published at Rome two volumes in folio of *Paralleli Militari*, a work much praised by *Scaliger* and *Salmasius*, who otherwise were very sparing of their praises. Several other works of the Chersine Philosopher are found in the libraries, and all of them give proofs of his talents and profound knowledge. He died at Rome in 1597, the 7th of February.

tales concerning witches and wizards are without number among the low people, who are fully persuaded that several of both sexes are dispersed among them. But those are prejudices common enough in all countries among the poor ignorant people, and it is only in that class that they are regarded at *Chersa*.

Concerning

Concerning the Island of PAGO.

Of the Situation of PAGO, with some Geographical Remarks,

THE ancient geographers have left us no description of the island of *Pago*; though its form, extent, and rich produce deserved it. It is not certain that this island was meant by Pliny, under the name of *Ciffa*, or *Giffa*, as those names might equally well be applied to several of the neighbouring islands, which are now either wholly abandoned, or thinly and wretchedly inhabited. One of the most considerable of these is *Plavnich*, which lies between the island of *Veglia* and that of *Cberfo*; *Parvich* between *Viglia* and *Arbe*; *Dolin*, extending in length nearly parallel to *Arbe*; *Scherda*, and *Meon* near *Pago*; and *Puntadura* divided from the continent of Dalmatia by a narrow fordable channel. And this suspicion is of so much the more weight, because, on every one of the small islands just mentioned, there are vestiges of buildings, inscriptions, tiles, and hewn stones, all which are indications of ancient Roman habitations. Among the islands mentioned by Pliny, there is also one which he calls *Portunata*, but cannot now be identically ascertained, though it agrees with *Pago*, as well as any other in the *Quarnaro*. However that may be, as it is very difficult to determine the correspondence of names without description, I shall content my self with giving some account of *Pago* as it is in our days. This island is extended from north to south over against maritime Croatia, or the mountain *Morlacca*. It is about fifty miles long; its breadth is unequal. One particular circumstance distinguishes it from all the other islands of the Adriatick, and is a large internal salt water lake fifteen

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miles

miles long from south to north, into which the sea enters by a canal not above a quarter of a mile broad in some places. There are also two smaller lakes on the island; one near *Vlassich* abounding in fish, particularly eels: and one near the hamlet of *Slabine*.

Of the Climate.

The climate of the island of *Pago*, is the the same as that of the mountain *Morlacca*, and the sea coast at the bottom of it. The winter is dreadfully cold; and the summer scorching hot. The stormy sea beats furiously against the rocky coast of the island opposite to the mountain; and, on that side, the heights and sides of the hills are rendered desolate by the wind, so that neither wood, nor pasture, nor corn lands are found upon them, or only in a few places; but frightful bare rocks, desert and uninhabitable, cover almost the whole. The air is generally darkened, by the salt mist, that is raised by the collision of the waves, in the narrow channel of *Morlacca*, altogether flanked by steep naked rocks. The lake itself is not calm in the stormy season, and far from being a harbour, as might at first sight be supposed, it is tempestuous and impracticable. The inhabitants of the city cannot go out of their houses during the violence of the wind; and are obliged to have the roofs defended all round by large stones. Those who have been there in the winter time, speak of it as a *Siberia* quite covered with snow and ice, and always exposed to the cold north wind; I who was there in the hot season, thought it equal to the most scorching parts of the world. The naked rocks, which not only form the organization, but also the superficies of almost all the island; the narrowness of the vallies; the reverberation
of

of the water of the lake, generally quite calm in summer, multiply the heat so prodigiously among those stones, that the vines, which are planted all round the lake, ripen the grapes by the beginning of August: and the few other products, that grow there, anticipate the usual time of maturity in the same manner. The meteors are exceedingly irregular in the summer time; sudden whirlwinds are frequent, and heavy showers of rain; the last are hurtful to the inhabitants of one part of the island, and favourable to the cultivation of the opposite end. I shall in the sequel give some account of various superstitious customs to which this diversity of wants has given rise.

Of the Cultivation, and chief Products of the Islands.

The banks of the interior marine lake are almost all cultivated with vines, and particularly near the city of *Pago*, and the salt pits, which are at the south end of the lake. The absolute want of wood on the island, is the cause, that a great part of the vines are left without any support. Some of them, however, are supported by canes which are planted for that purpose. The part of the island under the jurisdiction of *Pago*, produces about forty thousand barrels of good wine, and about two thousand of *Rakia*, one year with another. The great quantity of sage and other odoriferous plants, with which the island is covered, furnishes excellent food for the bees, and the honey forms no inconsiderable branch of trade; it is generally carried to *Fuime*, and sold again there as the honey of that country. The same pasture among those barren rocks maintains a large number of sheep and goats, and the wool, which is very bad, and cheese, make a small article for export. The tunny fishing at *Zapka*, near the extremity of the

the marine lake, brings also in no inconsiderable advantage when the passage of those fishes is plentiful; but that being very precarious, no calculation can be made of it. The northern part of the island, called *Novaglia*, which depends on the government of *Arbe*, is well supplied with water, and has good pastures on the low grounds, by which means its black cattle are larger and better than on any of the neighbouring islands, or of littoral Dalmatia. The produce of corn and oil is very scanty, and not enough to maintain the few inhabitants two months.

The most considerable product of the island is salt. In the year 1774, when I was there, they made eight hundred thousand Venetian *Stavio's*. Part of the saltworks belongs to the Government, and the rest to private proprietors; they are meliorated every year, and, for that end, the publick lends money to those proprietors who want it, and, without that assistance, could not make the requisite improvements. The lagune, on which the salt works lie, is four miles long, and about half a mile broad. The same species of *Testacei* are found here as in the lagunes at Venice.

The island, as I already mentioned, has actually neither wood to burn, nor for any other use, excepting the northern end called *Punta di Loni*, which is abundantly supplied with all sorts. Among the rest there are very fine roots, and trunks of old olive trees, which would furnish excellent materials for the cabinet makers and sculptors. But that part of the island belongs to the community of *Arbe*; and the inhabitants of the City of *Pago*, and the villages depending on it, are obliged to buy wood for their private use. There is, on the bank of
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the marine lake, a mine of fossil coal, which still preserve the distinguishable appearance of wood; but it is of so bad a quality, that no use can be made of it, unless in a case of the greatest necessity.

Nature of the Soil and the Stones.

The soil of the island, that is of the land lying on the declivity, and at the bottom of the hills, is very gravelly and light; but on the northern extremity where there are plains, though somewhat stoney, yet the land is better and stronger, and might be cultivated to bear corn of all sorts. The extent of this kind of land is not large, being only that tract which lies between the extremity of the lake and the *Quarnaro*, having the hills on the right and left side.

The hard calcarious stone, with fragments of marine bodies, is that which generally predominates on the island, and is ordinarily of a whitish colour. There are, however, some partial masses of a light blue colour, and, in some places, whole strata almost terreous, or perhaps fallen from the state of stone in the course of ages.

There is also a great deal of sand stone quite analogous to that of the island of *Veglia* near *Besca*, and of the island of *Arbe* in the adjacencies of the City. The inhabitants prefer this to any other stone in the foundations of their buildings underground, where, as they say, it maintains itself very long; but if they use it in the walls exposed to the air, it moulders away in a short time, leaving large holes in the wall.

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I saw no strata of fine marble, though there are masses of *breccia* like that of the mountain of *Arbe* and of the hills of *Veglia* and *Cherso*. The white stone of *Punta di Loni* is, however, capable of receiving a polish, and when only roughly hewn gives an air of nobility to the buildings which deserves better architecture than that used in those miserable places.

Of the inhabited Places of the Island, historical Remarks concerning them, and Vestiges of Antiquity.

Many vestiges of ancient habitations still remain on the island of *Pago*, as well as of walled places, which either have been destroyed by the incursions of enemies, or by time. Historians say, that the island was often abandoned by its inhabitants; and indeed it is rather to be wondered at how men ever could resolve to settle in so wretched a country. The small number of inhabitants, after so many years of peace and tranquillity under the Venetian government, evidently proves how little the island is really habitable. The whole number scarcely amounts to three thousand five hundred, which bears no proportion to the extent of ground, if the naked barren hills, that cover almost the whole, did not account for it. The greatest part of this population lives in the City of *Pago*, which is said to contain about three thousand inhabitants. The small capital of a desert island cannot be expected to offer much to the eyes of the curious: and, besides, it is of recent foundation, having been built by the Venetians in the year 1468. The plan is well understood, and the streets large and straight, which generally is not the case in the other Cities of Dalmatia, *Zara* only excepted. The name of *Pago*, is found in older writings, but then it was a village,

village, and situated in an unhealthful and inconvenient spot, now called *Terra Vecchia*, or the old town.

Kissa, *Kessa*, or *Kussa*, was the name of the capital of this island in the barbarous times, and probably comes from the corruption of *Cissa*, or *Gissa*. The Venetians took it from the Croats in the end of the 10th century, and demolished it. At that time it appears, that the southern part, where *Pago* now stands, was not much inhabited. Casimir IV. King of Croati made himself master of it again in 1071, and divided it into two parts; giving the northerly part, with the ruins of *Kessa*, that were still inhabited, to the City and Church of *Arbe*, and that towards the south, together with the villages of *Pago*, *Vlassich*, *Murolano*, &c. to the Bishop and City of *Nona*. In the beginning of the 12th century, the Doge *Ordelafo Faliero*, having drove the Hungarians out of littoral Dalmatia, retook *Kessa* likewise; and the Doge *Sebastiano Ziani*, in 1174, gave it in feod to *Ruggiero Morosini*. At that time the community of *Zara* possessed the southerly part of the island, which had been either ceded voluntarily, or taken by force from the *Nonesi*. The Zaratines having rebelled against the Venetians in the beginning of the 13th century, demolished the castle of *Kessa* again, and ruined it in such a manner, that it rose no more, and the rubbish is now hardly distinguishable. It is probable that the City of *Kessa*, and afterwards the Castle of the same name, was built on the ruins of more ancient settlements, as in the records since the 13th century it is called *Kessa Veterana*. *Kessa* being destroyed by the incursions of the Zaratine rebels, the Venetians fortified the village of *Pago*, now called *Terra Vecchia*. These islanders continued always faithful to the Re-

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publick ; and, on that account, were often exposed to cruel treatment from their bad neighbours.

In 1358 Lewis King of Hungary reconquered littoral Dalmatia, and the islands of the *Quarnaro* ; and the inhabitants of *Pago*, falling again under the dominion of Zara, were treated with all the severity of wanton and cruel tyranny. The distressed islanders had recourse to the King, who, being convinced of the abuse which the Zaraites had made of his donation, set *Pago* quite at liberty from their slavery ; and since that time, the portion of the island, that was subject to Zara, had a government apart, and the other portion having been humanely treated by the *Arbegiani*, remained united to that government.

As the *Paghesi* had now their particular governor, so they were desirous of having their own Bishop also, that they might have nothing to do with *Zara*, not even in ecclesiastical matters ; and, by a series of singular circumstances, eight Bishops were elected by that people from 1393 to 1560, but not one of them were consecrated ; some of them died on their journey to Rome, and the others met with unsurmountable difficulties. In the last century they attempted again, five or six times, to obtain that honour, but always in vain.

The most conspicuous families of the City of *Pago* are the *Cassich*, *Jadrulei*, *Portada*, *Grasso*, &c. There are two convents of friars, and one of nuns ; and several Churches, all in very bad order, and ill served ; at *Terra Vecchia* also there is a Convent of Franciscan monks, a race of men who, under various names and disguises, infest every place where credulous ignorance can be persuaded to maintain the idle and superstitious.

Out

Out of the ruins of *Kessa* arose the two hamlets of old and new *Novaglia*, situated in the best part of the island, and most convenient for trade with Dalmatia as well as Italy. I saw there some fragments of Roman inscriptions of the best times, which cannot be suspected to have been transported from other places into a Country full of stones of its own.

Colane and *Vlassich* are also poor villiages, and the inhabitants of them, together with those of the two *Novaglia's*, scarcely amount to six hundred souls. The dress of the women of *Vlassich* is very curious, and more gay then that of the islanders of the channel of *Zara*; but I had not time to take a drawing of it.

Customs and Superstitions.

The difficulty of access to the City of *Pago*, and the ill accommodation that strangers meet with, make it very little frequented. Hence the inhabitants are as wild and unpolished, as if they lay at the greatest distance from the sea, and the commerce of polite people. The gentry who pretend to shew their manners different from those of the vulgar are truly grotesque figures, both in their dress, behaviour, and insolent pretensions. The ignorance of the Clergy is incredible; a priest of the greatest consequence there, and who was thought a man of learning, did not know how *Pago* was called in Latin.

The greatest part of the people of *Pago* live by working in the salt pits, and have a comfortable subsistence regularly paid by the Government; it is therefore a very important circumstance for the inhabitants of the City to have a dry summer; and hence

the ignorant vulgar look upon rain as a mischief brought upon the country by the force of witchcraft. In consequence of this idea, they elect a friar to exorcise the meteors, and keep the rain off the island. If notwithstanding the poor friar's endeavours, the summer happens to be rainy, he loses his reputation, and his bread; but, if two or three dry seasons follow successively, he meets with great reverence and advantage.

At *Novaglia*, where they have a different interest from that of the salt pits, they make use of as ridiculous means to obtain rain as their neighbours do to have dry weather. There are numberless other superstitious customs among those poor ignorant islanders, which are chiefly cultivated and maintained by the friars for their own interest, and sometimes for more criminal ends; but as little good can be proposed by exposing the folly of the people, or the knavery of the monks, I shall let them alone as they are.

APPENDIX

A P P E N D I X

T O T H E OBSERVATIONS ON *CHERSO* AND *OSERO*;

GIVING SOME ACCOUNT OF LITTORAL *CROATIA*, THE
ISLANDS OF *PAGO* AND *VEGLIA*, &c.

IN THREE LETTERS FROM THE ABBE' FORTIS TO JOHN STRANGE,
ESQ. HIS BRITANNICK MAJESTY'S MINISTER AT VENICE.

THE unlucky accident that, in 1774, was the cause of my return from *Dalmatia* much against my will, gave me an opportunity of visiting the islands of the *Quarnaro*, and of making some Observations on the littoral coasts of that gulf, which, though long, and unconnected, I am now to communicate to your Excellency, such as they are.

The littoral parts of the *Quarnaro*, belonging to the Republic of Venice, reach but little beyond *Fianona*, the ancient *Flanona* of the Geographers, which gave the name of *Sinus Flanaticus* to the adjacent sea, and which now is reduced to a miserable condition. The House of Austria is sovereign of the interior coast, from *Bersen* as far as *Lucovo*, which tract of country is called *Littoral Croazia*. The sea, that baths this coast, is called the channel of *Morlacca*, and takes the denomination from the mountains that rise above it. This channel is exceedingly tempestuous, through the violence of the boreal winds, which often, on a sudden, put it in dreadful agitation, raising the

the waves to a terrible height, and darkening the air by the [mist of the sea water elevated and dispersed, in minute particles, by the repercussion of the many rocks and craggy islands, which obstruct and embarrass the channel. Three principal Cities are situated on that rough coast, besides many places of less importance, in each of which a military Officer presides for the administration of justice. The first of these Cities, within the channel, is *Fiume*; in former times called *S. Vito*, and takes its name from a small river that rises under the mountain not far distant, and falls into the sea, where it forms the harbour. The number of inhabitants in this City is from fifteen to sixteen thousand. The suburbs are large, and well built; and the houses are furnished in a good taste, which could hardly be expected in so detached and unpleasant a situation. The trade of *Fiume* is considerable, and it is the staple for the commodities of the *Banato* of *Temeswar*. It has manufactures of linnen, glass &c. and large works for refining sugar. The natural language of the country is the Croatian; but all the genteel people of both sexes speak good Italian, and imitate the Tuscan manner, for which they are certainly much more to be commended than we who mutilate our beautiful language, and ridicule any one who endeavours to speak it well, if not born in Tuscany. The manners of the Fiumans are mild, and their society chearful, though tempered with moderation. Learning and the Sciences are more cultivated there than in any of the neighbouring towns on that coast; and the inhabitants of the Venetian islands, who chuse to give their children a good education, send them to the publick schools erected and maintained at *Fiume* by the munificence of the Sovereign. I cannot positively determine if the ancient *Tarsatica* stood on the spot which the City of *Fiume* now occupies; because I saw no vestiges of

of good antiquity there, and could not learn whether the ancient arch still existed, which I found indicated in the MSS. of the late General Count *Marfogli*, which are preserved at Bologna in the library *dell Istituto* founded by him.

The contiguous village, on the left side of the river, retains still the name of *Terfatz*, as well as the hill that stands immediately above it, to the top of which you ascend by 414 very irregular steps. This hill is revered in those parts, on account of the tradition, believed by the devout Croats, Istrians, and neighbouring islanders, that the Holy House was set down there by the Angels on its being transported from Bethlem, and that it remained on the top of that hill three years and seven months, before it proceeded on its voyage to *Loretto*. Before I went to *Fiume*, I read a curious book which I happened to find at *Cberso*, intitled *Historicus progressus Mariani triumphi, &c.* wrote by Father *Pasconi*, a Franciscan friar. He begins the 4th chapter of his little work by a recital of all the signs of peculiar favour shewn by God to the mountains in preference to the plains. This is a chapter of great consolation to a naturalist. Lot saved himself from the fire of Sodom on a mountain. God appeared to Moses on Horeb; and gave him the Law on Sinai: Jesus prayed on the top of a mountain; His transfiguration happened on another; He dined on a third; He begun the Passion on mount Olivet; and finished it on Golgotha. The Holy Virgin had also the same partiality; *In montana perrexit*; she favoured the Carmelites, who built a little chapel in honour of her on mount Carmel, after her assumption, &c. All these are highly honoured mountains no doubt; but that of *Terfatz* is the noblest of them all, "having
"been chosen and predestinated, by the ineffable Divine Provi-
" dence,

“ dence, to bear upon its top, for the space of three years and
 “ seven months, the most sacred house in which the Word
 “ was made flesh, and which was rescued from the hands of
 “ the infidels and transported to *Terfatz*.” In our days this
 legend is not believed, nor maintained even at Rome ; but the
 Croats are two hundred years behind us in these matters. In
 the same book are recorded many miracles wrought at *Terfatz* ;
 though after all, the departure of the House does not look like
 a token of love. The author never forgets to take notice, after
 every miracle, of the gratitude of the faithful to the Church
 of *Terfatz*, which is officiated by friars of his order. It is usual
 enough for the devotees of that neighbourhood to make vows
 of staying a whole day in the Church of the *Madonna* of *Terfatz*,
 and they even dine there ; nay the simple inhabitants of both
 sexes sometimes vow to pass six or eight nights in the Church ;
 a practice truly scandalous, and unworthy of the respect due to
 places set apart for publick worship. Among other curiosities,
 which the friars on the top of the hill show with bold imposture,
 is a pretended notorial act of the arrival, and departure of the
 holy house, and a little bell, which the above mentioned writer
 says, *ad coercendas æreas tempestates, experientia teste, mirum in mo-*
dum conducit. The architecture of the Church of *Terfatz* is
 quite vulgar, neither has it any good sculpture or painting.
 The stone, of which the hill is composed, is of the ordinary
 marble that forms the organization of the Istrian, and littoral
 Dalmatian mountains. Five miles to the eastward of *Fiume* lies
Porte Re, a large sea lake, surrounded by rocky mountains, and
 defended from the winds, but subject to a double inconvenience
 for shipping ; the entrance being very difficult in the six winter
 months, and the egress not much easier in the summer. The
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Emperor Charles VI. spent immense sums in fortifying and beautifying *Porto Re*; but the event proved that he had been ill advised. The lake is oblong; and at the two extremities are two Castles, the one called *Buccaria*, and the other *Buccarizza*, where they make a vast quantity of pipe staves, and carry on no inconsiderable trade in that article, as almost all the places on the Adriatick are furnished from thence. Further up the channel, between the island of *Veglia* and the Continent, which is scarcely a quarter of a mile broad, and, in the narrowest part, perhaps not half so much, lies the little island of *S. Marco*, and the small rock called *Maltempo*, where formerly there was a fort belonging to the Venetians, who still continue to pay a titular Governor, though the fort has lain in ruins many years. The Austrian coast thereabouts is ill peopled, and, indeed, scarcely habitable, on account of the asperity and naked barrenness of the mountain. The castle of *Novi* is however of some consequence; it lies between *Fiume* and *Segna*, and the Bishop of the last mentioned place, a hospitable and polite Prelate, resides almost constantly there. *Segna*, a City but too famous in the history of the Republick of Venice, which was obliged to make formal war against it, and suffered cruel losses in its maritime states of Istria and Dalmatia, for a very long time, without being able to put a stop to them, was an object of curiosity for a Venetian traveller. I was desirous of knowing on the spot the descendants of those fierce *Uscocchi*, who were equally admired for their courage, and detested for their cruelty. *Minuccio Minucci* wrote a history of them; and the celebrated *F. Paolo Sarpi* did the same some years after. I could have wished also to have seen their history written by one of themselves; but the *Uscocchi* fought valiantly, and attended to the sale of their prizes

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and booty, not to writing histories. The City of *Segna* is ill built, worse paved, and weakly fortified. It lies on the brink of the sea, on a foundation of concreted gravel, at the mouth of a very narrow valley surrounded by horrid marble hills. The ground, at present occupied by *Segna*, shews manifestly that its formation is of no old date, and the torrent, that sometimes inundates and threatens ruin to the City, through the middle of which it runs into the sea, bringing down with it gravel of the same kind as that just mentioned, and sometimes scattering it over the contiguous cultivated fields, give sufficient reason to suppose, that the prudent ancients never planted a Colony in such a dismal situation. It is probable that *Senia* stood almost three miles further up the valley, where there are still the vestiges of ancient habitations, and monuments of the funeral superstition of the Gentiles. The sea, in all appearance, covered the bottom of the valley, as far up as the City, which stood on the side of the hill, and formed a tolerable good harbour. Afterwards, the woods being extirpated to make room for cultivation, the violence of the eventual waters naturally augmented, and falling down the sides of the craggy naked marble mountains, broke off, and tumbled down such a quantity of stones, as was sufficient to fill up the narrow bay, and also to form a kind of headland that juts out beyond the foot of the hills. Besides, the City of *Segna* had no walls before the 15th century, which is a further confirmation that it does not stand where the ancient *Senia* did. The wind coming from the bare mountains blow so furiously in that narrow hollow, that sometimes in winter one cannot go out of doors without danger, and without the City it is much worse. It happens frequently that children and weak people walking not only in the market place, where indeed no prudent

prudent person ventures at such times, but also through narrow winding lanes, are lifted up from the ground and dashed against the walls ; and when indispensable necessity obliges one to go to the basin where the shipping lies, though creeping on hands and feet, he is sometimes whirled about like a straw by the impetuosity of the wind. Horses loaded with salt are frequently thrown down in the market place of Segna ; and the roofs of the houses, though covered with very heavy stones, are carried away. The ships belonging to, or trading with *Segna*, endeavour to take refuge in the ports of the island of *Arbe*, before the winter storms comes on, but when any happen to be in the harbour in these hurricanes, they run the greatest risk of being lost, and never escape without damage, as the seamen can be of no assistance, and are forced to keep under deck. In such circumstances, the proprietors of ships give thirty and sometimes forty sequins to the poor mariners of the place to go and make fast a rope at the risk of their life. The sea in the channel of the mouth of *Segna* opposite to the valley, is hardly ever calm. Yet notwithstanding all these disasters, the inhabitants of *Segna*, in the beginning of this age, had fifty merchant ships at sea ; they were rich by a free commerce, exporting the corn, wool, wax, honey, tar, and iron of the Turkish state, on which they border ; and the timber they cut freely in the vast ancient forest of *Velebich* ; and they imported, besides many other articles of merchandise, salt, oil, and wine to supply the inward provinces. But the many losses of shipping, and the excessive charges they were often obliged to be at, on account of their inconvenient situation, disconcerted and discouraged their navigation ; and, at present, *Segna* has but a very small number of ships belonging to it. Another fatal blow was given to

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that City by the regulation made by the Court of Vienna in 1741, by which it was deprived of sixty thousand florins a year in money, and forty thousand ells of cloth, and twenty thousand measures of grain, which the Emperor gave yearly to the inhabitants of *Segna*, as being a warlike people, and a bulwark against the Turks on that side. In reality, after the Austrians took the County of *Lika*, from the Turks, and formed all the inhabitants into Militia, *Segna* is become a place of no importance. The last, and perhaps the greatest misfortune of the Segnans, were the publick farms, introduced, not long since, for the benefit of the Imperial Treasury, which obstruct both the active and passive commerce. These farms are extended not only to wood for daily use, but even to firewood. The military government of *Lika* always opposes the commercial views of *Segna*, and even distresses it in many respects, particularly by hindering the transportation of victuals from the back Country. The stoney lands about *Segna* scarcely produce, with much labour, sufficient provision for the City two months of the year; and there is so great scarcity of water, that none good, or fit to drink, is to be found nearer than the spring of *Kraglieviza* twelve miles from the City, all in the neighbourhood being brackish and unwholesome.

The City of *Segna* is now but thinly peopled, the number of its inhabitants not amounting to seven thousand; yet notwithstanding that, and all its other disadvantages, the people have a politeness of manners that is not to be met with in any other place of the Austrian coast, nor even among the Venetian subjects of those parts. The real character of the Segnans is, however, suspected to resemble that of their forefathers in more than

than one bad quality. The Clergy there in general give no good example to the people, though it must be confessed some of them are men of probity and learning. The story of their Bishop *Cbiolich* does them great dishonour. That prelate was learned, lively, hospitable, and in credit at court; he was a native of *Segna*; but well educated. In the course of his duty as Bishop, he repeatedly admonished an Ecclesiastick, who lived publicly in concubinage; this man was powerful. The Bishop, at the age of seventy was accused of whoredom, magick and heresy. The Court of Vienna abandoned him to Rome; Rome put an end to his life, and cause, no body knows how; and his calumniators triumphed. This detail of this affair is shocking. The people of *Segna* are superstitious, and at the same time debauched. Even the richest of them are slaves to the friars, and have their chambers furnished with that paper trumpery which the Generals and Provincials of the regular Clergy distribute to their devotees, entitling them to the same rights in Paradise which their cloistered brethren have. In consequence of this monastick influence, learning flourishes not at *Segna*. The women of this City are thought rather too much inclined to gallantry; they have an easy air, that does not seem Croatian. Hence amorous adventures are frequent, and sometimes attended with disagreeable consequences. The Bishop, and the superiors of Convents, who formed a Court of justice to which those matters devolved, made a decree, a few years ago, that if an unmarried woman has a child by her lover, she cannot sue him before the judge, either for marriage or fortune. From this cruel decree a worse corruption of morals is derived, and many unhappy young women are every year sacrificed to infamy, without remedy; an inhumane and scandalous barbarity. Though the principal

principal families of *Segna* are descended from the *Uscocchi*, who were actually pirates, yet they stand much on the punctilio of nobility. An apothecary, who had the vanity to put the article *De* before his surname in a certain inscription, was accused *de crimine falsi*, and it cost him five hundred florins to defend himself, besides the loss of the *De*, his claim to nobility.

Among the customs of the Segnans (which are a mixture of Morlacco, German, and Italian) one is somewhat singular, relative to the dead. All the relations and friends of the family go to kiss the corpse, by way of taking leave, before burial. Each of them uncovers the face, over which a handkerchief is spread, more or less rich, according to the family; having kissed the dead person, every one throws another handkerchief over the face; all which remain to the heirs, and sometimes there are twenty, thirty, and more at this ceremony. Some throw all these handkerchiefs into the grave with the corpse; and this, in former times, was the general custom; but then they were rich. This seems to have been brought into use as a substitute for the ancient *vasi lacrimatorii*. There is weeping and howling for the dead according to ancient custom; but if the heirs weep more than with us, the priests have much more cause to laugh than ours. The burial of a noble person ruins the family. Notwithstanding the City is impoverished, this extravagance continues; the burial of a person of any fashion costs at least two hundred Ducats, which is a great deal for a small poor town.

The Church of *Segna* is officiated partly in Glagolitic Illyrian, and partly in Latin. In the 16th century there was a Glagolitic printing

printing press at *Segna*: but after that time the Venetians burnt the place, put the inhabitants to death, or made them fly elsewhere, and every thing was lost. I could not find a single book printed there; nor indeed did I meet with any person who knew there ever had been a printing house. There is a curious original manuscript preserved at *Segna* concerning the leagues of the *Knezovi* of the mountain, or the Morlacchi Chiefs, or Counts, with their neighbours the Segnans against the Venetians. The inhabitants of the mountain now a days are very different from what they were then. They call themselves *Bunjevci*, because they came from the territory of *Buniar* in *Bosnia*. They are so oppressed and ill treated, that they are often forced to fly from home to get a living any where. It has always been the fate of this Coast to be subjected to a heavy yoke; and the inhabitants have frequently emigrated out of despair. In the time of Maximilian II. many of them removed into Hungary, where their descendants still live; and many families also went to settle in *Abbruzzo*, about the mountain of *Majella*, who still maintain themselves there in a good condition. These emigrations opened to the Austrians the conquest of *Lika* not an age ago. That Bugnevaz reckons himself happy, who has a provision of potatoes to feed on, and who does not see his own oxen fall down, through fatigue and want of food, in the publick service. But I shall, in another letter, speak more at large of the condition of this wretched country; and shall conclude this by assuring your Excellency, that I saw, in the streets of *Segna*, a woman actually become frantick through hunger, having had no relief the whole day; and I understood, that these poor mountaineers are reduced, almost every winter, to grind the tops of wild *cardi*, by them called *bumbreci*, and mixing

mixing it with bran, or bad rye meal, make a bitter bread, to support their miserable life.

L E T T E R II.

Of the Littoral Part of the Mountain MORLACCA, of LIKA, and the Island of PAGO.

THE coast of the mountain *Morlacca*, from Segna to the Austrian confine, near *Lucovo*, and further inward, in the channel of *Obroazzo*, as far as the mouth of the river *Zermagna*, the *Tedanius* of the ancients, is a tract of country for the most part rough, craggy, woody, and incapable of cultivation; inhabited by poor people, who almost all lead a pastoral life. In ancient times, there were several cities mentioned by geographers; and Pliny in particular takes notice of *Jospica* or *Lopsica*, *Orthepula*, and *Vegium*. In our times, all that coast is very thinly inhabited, and the places hardly deserve to be mentioned, *Carlobago* alone excepted. *S. Giorgio*, *Lucovaz*, and *Jablanaz*, are miserable hamlets, where, in times past, the facility of trading in timber brought several families that now languish in misery and oppression, since the court of Vienna has deprived them of that means of subsistence. The few stoney fields that are cultivated near the habitations, hardly yield double the seed. Yet, at *Jablanaz*, I saw good grapes and figs, and a specimen of very fine saffron, belonging to the *Signori Streglianazich*, an ancient and noble family of the *Uscocchi*, who, having lost the old warlike fierceness, preserves the sentiments of cordial hospitality. *Jablanaz* has a very small harbour, and can only contain a few barks of little burden; in the middle times it was fortified with lateral towers.

towers. The hill above *Jablanax* is of hard limestone; there is also some marble of a pale red, and *breccia*, that, near the sea, is spongy; but compact, where the salt water does not reach. The *Bunievei*, or Catholick Morlacchi of these parts, use to throw a great quantity of honey into the coffins of their dead. The spirit of farming is so well established at Vienna, that, for the annual contribution of four florins, the commanding officer at *Jablanax* has an exclusive right of hunting in all that district, which is about forty miles round. The same officer administers justice, though by no means learned in the law, and hence the law suits are decided, and delinquents are punished in a very summary and military way.

Carlobago is a town that contains not above a thousand inhabitants, without walls or fortifications, excepting an insignificant square tower. Notwithstanding the Austrian government gives it the title of city. It is situated on the sea side, at the foot of a very craggy naked mountain, and opposite to the island of *Pago*, which is also on that side, rocky, without harbours, barren, and quite bare of trees or grass. The breadth of the channel is not above two miles, yet it is sometimes impassable for several days successively, on account of the violence of the wind. In former times, there was a castle called *Scriffa*, where *Carlobago* now stands; it belonged to the *Torquati*, Counts of *Corbavia*, who kept a Viscount in it; and when that family was extinct, it became one of the strong places of the *Uscocchi*, and was in 1616 burnt, and demolished from the foundations, by the Venetians, who did not care to keep possession of that horrid country to which nature has denied even water to drink. Yet in spite of the disadvantages of situation, the ruins of *Scriffa* arose again, being found the most convenient place to export the com-

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modities

modities of *Lika*, which lies directly on the other side of the mountain *Morlacca*, forming a part of Mediterranean Croatia. From the beginning of this century, till of late, *Carlobago* carried on no inconsiderable trade: but the diffentions between the military and commercial interest, the first of which seems now in greater favour at the court of Vienna than the second, which, however, triumphed under the last Emperor, have reduced the country, as well as all the rest of the Austrian coast, to a state of increasing misery. The trade of the *Carlobagians* consists chiefly in wood. They have not a bit of ground fit for vines or corn; their territory is altogether stoney; and besides, the rigid temperature of the air renders it unfit for cultivation. In consequence of these natural disadvantages, they are obliged to bring every thing they want from other parts. Their wine and oil are brought from Dalmatia, and the Venetian islands; they ought to have their corn from the internal parts of the country, but the military government of *Lika* seems to make a maxim of starving them. The present Empress Queen caused a road to be made from *Carlobago* to *Lika*, but it was exceedingly ill executed, and is very different from the other Austrian roads. It is impracticable for carriages, and bad enough on horseback, amidst dreadful rocks, and thick woods.

The character of the *Carlobagians* seems much to resemble that of their progenitors the *Uscocchi*; but not being able to exercise piracy freely, they rob and steal every thing they can, wherever they come. Notwithstanding their poverty, both men and women have such an aversion to dependance, that no servants can be found there; and rather than eat the bread of others, they content themselves to carry to *Gospich* in *Lika*, fruit, fish, and other small things, which they buy on the coast, or the neighbouring

bouring islands, and to live on the small profit they can make. The people have all the Slavonian superstitions, as well as the German, and a convent of fat Capuchins, planted on the least bad spot near the town, contributes to maintain and multiply them. The priests, for example, go about at the festival of Epiphany, to bless the houses, and write on all the doors of the chambers, the current year, and the initial letters of the names of the three wise men of the East, thus, 17GMB76; to which letters they ascribe many virtues. The writing is made with chalk, and the inhabitants are careful not to efface it, till the time of renewing it returns. The men of *Carlobago* wear the Hungarian dress, and the women dress like those of *Segna*.

I did not proceed far enough along this coast to be able to discover vestiges (if there are any) of the above mentioned ancient cities of *Japidia*, and therefore can say nothing about them. Neither did I visit the internal parts of *Lika*; but I can add something relative to its physical and political constitution, by information from credible persons.

That small province situated among the mountains, has never been examined by any naturalist or antiquary; yet, by what I could understand, both would find matter for their respective observation. The whole county is surrounded by very high mountains, whereof a diramation, called *Sridyna gorra*, separates it from *Corbavia*. On the north, it borders with part of Turkey, on the east, with Venetian *Morlacchia*, and is separated from the sea by the *Bebian Alps*, called *Velebich*, by the people of the country. I am inclined to believe, that the low part of the great valley of *Lika*, resembles the district of *Knin*, which

is scattered with little vulcanic hills and eminences. But I can only give this as my opinion, founded on the reports of people not sufficient judges of the difference between one hill and another. The river that traverses *Lika*, bears the name of the province, and produces excellent trouts. It is not navigable, on account of the many precipices in it. It loses itself in a great whirlpool at *Koffinie*, and runs into the sea from under the littoral *Bebian Alps*. All the other smaller streams of those parts do the same; and hence it happens, that large fresh water submarine springs are frequently met with along the coast, to which the fishes resort in prodigious numbers. One of these springs is seen near *S. Georgio*, one in the harbour of *Carlobago*, one near *Starigrad*, &c. In like manner the small river anciently called *Zlatieza*, by the inhabitants, which now goes by the name of the valley *Korenitza*, in *Corbavia*, issues out of one hill, and, after a course of five or six miles, loses itself under another. In the valley of *Korenitza* are seen the ruins of an ancient city, from which *Bela IV.* fled, when pursued by the Tartars. In the two counties of *Lika* and *Corbavia*, there still remain distinguishable vestiges of forty-eight walled places, the greatest part of which probably belonged to petty lords of the low times: and there is also to be seen some grand remains of a Roman way, which, crossing over these provinces, led to *Salona*. Near *Perrussich* the road is quite entire, and there are also some inscriptions; the place is called *Quarte*. No doubt there are also vestiges of the ancient mines, as there is a place, near the Turkish confines, that still goes by the name of *Rudarnizza*, which signifies "*the country of mines.*" This conjecture becomes more probable, since we know, that, near the triple confine between the Turks, Austrians and Venetians, there certainly were metal-lick

lick veins formerly. The Likans pretend, that are there also mines at *Ternovaez*; but they know not of what metal.

The air of *Lika* is excessively cold; the snow remains almost every where till the month of June, and in some of the deep hollows, where the rays of the sun do not reach, it never melts. Thunder and lightning are very frequent even in winter; but the summer hail seldom hurts those parts being mostly woody. The soil is light and weak; the corn seldom comes to its full maturity, and renders a very small increase, unless when left fallow for some years, and well manured. In *Corbavia*, wheat and all other kinds of grain answer much better. The Likans generally sow millet, barley and oats, and rarely use any other grain. Their agriculture is quite barbarous; they manure their corn ground, by keeping their cattle on it in the night, and when they think one field sufficiently manured, they move them to another. They plow their land extremely ill, and are as ignorant and careless in every other part of husbandry. The Corbavians are better husbandmen. They have two kinds of wheat; the one called *Ozimnicza*, which they sow in autumn, and the other, called *Jarieza*, they sow in March and April, and it ripens as soon as the other. They say, if these two sorts of wheat were sown out of their proper season, they would not grow. The climate both of *Lika* and *Corbavia* is too rigid for the vine. The chief article of food in that country is salted cabbage, and it is one of the principal objects of their cultivation. They sow the cabbages in the spring, and transplant them in June, and before winter they become large and hard. The Likans and Corbavians cut them small, and lay them in tubs, sprinkling salt between each layer. That which they intend to preserve for the following summer is carefully pressed down,

down, and then they throw some measures of oats above it in the same vessel, which forms a crust, and sometimes begins to grow. In this manner they may be preserved two years. The Venetian Morlacchi do not prepare their cabbage in this manner, they only let them ferment and grow sour in water, and thus they eat them the whole year round. Since the last war with the king of Prussia, the Likans and Corbavians have introduced the culture of potatoes, by them called *krumpir*, and they succeed extremely well.

The country of *Lika* was once in much better circumstances than it is at present; the passage from the Ottoman to the Austrian yoke, brought along with it a change of constitution, which reduced the inhabitants to the most miserable condition. They have lost, without any exception, the right of property of land; that is distributed among the soldiers, and on the death of a soldier, his respective portion returns to the sovereign. If he happens to leave a family, a mother, a widow, children, all those wretched victims are obliged to leave their habitation, and to beg their bread elsewhere. The shepherds, and proprietors of flocks and herbs, are equally wretched; they are not at liberty to sell their cattle, when, or how they please, but must depend on the will of the officer quartered in their district. For the most part the cattle are taken, and paid for in the military way, that is to say, for the half of what they are worth. The cane is made use of on those wretches for the most trifling causes, and as they know it, they often fly into the Turkish territory, where they are less cruelly treated. At *Carlobago*, where the same kind of military justice is in use, I have seen such instances of inhumanity, as are too shocking to be related. Nor are those poor people allowed the wretched consolation of complaining,

complaining, the smallest complaint is called sedition, and punished with barbarous severity.

Opposite to the mountain *Morlacca* lies the island of *Pago*, about thirty miles in length: it was, probably, known by the ancients under the name of *Portunata*. This island encloses among its rocks a salt water lake ten miles in length, where a vast quantity of salt is made; it is frequented by the tunny fish, which, when once in it, cannot return again to the sea. The figure of this island is remarkably irregular; its breadth is in no proportion to its length, and one of the extremities called *Punta di Loni* is above ten miles long, and less than one broad. Almost all the circumference is dismal, without trees, or any kind of visible plants or grass, steep, craggy and uninhabited. When I entered the lake, through the channel that communicates with the sea, I could see nothing on the right and left hand, but bare hanging rocks, so disfigured on the outside by the violent percussive of the waves, that the stratification was hardly distinguishable. In general, the stone of the island is of the same kind as the Istrian, or *breccia*, and besides, there are large strata of blue and yellowish sandstone. The channel, or inward bay of *Pago* is not a harbour; on the contrary, it is a very dangerous station, and even inaccessible in winter, when the boreal wind blows with such fury, that the inhabitants of the town dare not stir out of their houses, and much less the few that are scattered over the country. The sky appears always cloudy in that season, by the thick mist that rises from the repercussion of the waves on that long chain of rough and hollow rocks.

The town of *Pago*, built by the Venetians about three hundred years ago, contains upwards of two thousand inhabitants, and

and all the rest of the island scarcely nine hundred; a small number indeed, yet it may be reckoned large, considering the uncomfortable and dismal situation. They cultivate neither corn nor oil on this island; but it produces plenty of wine, and an immense quantity of salt; the other products are wool, honey, and a little salt fish. The quantity of wine amounts annually, on a medium, to forty thousand Venetian barrels; and, from the husks, they distill two thousand barrels of *rakia* or brandy. The salt, in 1663, amounted to eight hundred thousand Venetian *Stare*. The salt works are well contrived, and well kept, they extend along a shallow pool, which forms the eastern extremity of the lake within, for four miles in length, and about half a mile in breadth. On the sides of this fen, the best part of the vines lie; but the upper part of the hills, on each side, is altogether naked and barren; there is not even a sufficiency of fire-wood, and the inhabitants are obliged to provide themselves elsewhere. The soil at the foot of the hills, where the vines are planted, is full of gravel and small stones; and hence the wine is of good quality. The air is not unhealthful, notwithstanding the vicinity of the salt pits; but the frequent high winds carry off the noxious exhalations.

The manners of the inhabitants of *Pago* are very unpolished, and superstition reigns among them. The small town has two convents of friars, and one of nuns within the walls, and, at a little distance, there is a fourth. In the convent of the Dominicans, one of the friars is elected by the people, to the office of exorcising the storms, and of keeping the island clear of summer rains, which damage the salt works, and of hail, which destroys the vines. The good friar had executed his office, to general satisfaction, for two years, when I was there; and,
of

of consequence, was held in high veneration, and collected very plentiful contributions from the people.

I found not a single medal, nor inscription, nor MS. or a man of good sense in all that town; every body is interested in the salt pits, and whoever talks not of salt is not regarded.

They pretend that there was an ancient city on the spot now called *Terra Vecchia*; where there is a convent of friars; I went thither, but had not the good fortune to discover any thing like the remains of antiquity.

They say that this island has been abandoned more than once; and indeed it is rather to be wondered at, that it is inhabited at all; the interesting object of the salt pits being the only motive that can induce people to live in such a dismal place.

At the end of the valley, opposite to the salt pits, and ten miles distant from the town of *Pago*, there is a tract of land not entirely bad. There the castle of *Kessa veterana* stood, whereof mention is often made in the records of the low times; and probably not far from thence, further up, stood *Giffa*; as some pieces of ancient marble, inscriptions, and coins are found thereabouts. That part of the island is under the jurisdiction of *Arbe*; there is some corn land, and people in proportion, and a large spring of excellent water, whereby the sheep and oxen of that district are better and larger than in any of the other islands of the *Quarnaro*. The names of *Novaglia vecchia*, and *Novaglia nuova*, which the two villages go by, indicate a Latin origin.

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There

There are about six hundred inhabitants in that district. In past times, the spiritual interest of these people was directed by Illyrian Glagolite priests, who, to say the truth, are generally very ignorant and ill qualified for their office; and, in their room, the present worthy Bishop of *Arbe* sent a latin pastor. The Glagolitic tongue, which is the ancient sacred Illyric, is now but little understood. I know not how the latin priests will relish the duty which the people used to exact from their Illyric pastors. All these, and the curate in particular, were obliged to exorcise the evil spirits, and the *Vukodlaci*, or witches who raised the storms; to stand in their sacerdotal dress, with the holy water in their hand, without doors, exposed to wind and rain. The impostors appeared to act this scene very seriously, making a thousand motions and grimaces, and leaping from one side to the other, as if pursuing some *Vukodlak*. I knew one of them, who run after the devil into the sea up to the middle, and, in that strange posture, continued his crosses, aspersions and conjurations. The islanders, while the priest mutters his prayers, discharge their pieces towards the place pointed at by him; as if to kill the witches, or put them to flight. What sillier customs can there be among the Lappo-nians?

On the first day of May, a young man, with a branch of a tree in his hand, runs through the village of *Novaglia*, passing before all the houses. The women, who are waiting for him, throw water on him as he passes, crying aloud, *May day vodé*, i. e. *May give water*. When the young man has finished his round, he leaps into the sea, and swims about. I asked them about the origin of this odd custom, and all the answer they could give was, that it had been so for time immemorial, but they knew not why.

The

The women of *Pago*, and particularly those who have been married but a short time, if their husband happens to die, tear their hair out in good earnest, and scatter it on the coffin; and this ceremony is so much consecrated by custom, that no woman, even though she had notoriously hated her husband, would fail in performing it.

L E T T E R III.

Concerning the Island of VEGLIA in general.

OF all the islands of the *Quarnaro*, which, between great and small, are more than twenty in number, the island of *Veglia* is certainly the most considerable, for the ancient date of its being inhabited; the number of people it contains; the singularity of its situation; the amenity of the country; the variety and riches of its commodities; and, finally, for productions of the fossil kingdom. The ancient greek geographers knew it by the name of *Curicta*, which was also adopted by the latins. A certain friar, I know not for what reason, desirous of doing a displeasure to the *Veglians*, drew the etymology of *Curicta* from *Corita*, which, in *Illyrick*, signifies *a bog's trough*; though the island is very far from having any likeness to such an utensil: the same friar was greatly offended at me, because I had the courage to differ from his opinion, and wrote a kind of libel on the subject, which was judged unworthy to be printed. In the good times the island had two names *Curicta* and *Fulfinio*, of which *Pliny*, *Ptolomy*, and others make mention. In the decline of the empire, both the chief city and the island changed name, and are called *Becla* by *Porphyrogenitus*, from whence the *Latins* of the barbarous ages called them *Vegla*, and the *Italians* *Veglia*.

Few considerable islands are situated so near the main land as this is, being divided from the coast of *Liburnia*, or low Austrian *Croatia*, by a channel scarcely a quarter of a mile broad. It is of an irregular figure, and has several promontories that stretch far into the sea, as the neighbouring islands of *Arbe*, *Cherfo*, and *Pago* also have. Its circuit is about ninety-five miles; the length of it is thirty; and its greatest breadth about fourteen. *Martiniere*, and those who copied him, were much mistaken in giving it only thirty miles of circuit. The island has many small harbours and roads, but no good station for large vessels; and, in the roads, the smaller barks must be drawn up on the beach. A part of the coast of *Veglio* is quite inaccessible, on account of the steepness of the rocks which form it. The soil is, for the most part, mountainous and stoney; but there are some very fertile and delicious vallies, which, however, do not all enjoy a good air, chiefly through the laziness of the inhabitants, in not giving outlets to the water.

Of the City of VEGLIA, its Antiquities, Customs, and Language.

The present capital city of the island, where the bishop, and governour reside, is situated on the very spot where the ancient *Curicta* stood, as appears by the many remains of columns, cornices, and engraved stones, which are seen, here and there, in the walls and streets. It is ill built, and full of rubbish, and ruined houses. In summer time there is often a want of good water to drink, and the *Scirocco* wind predominates. The inhabitants of *Veglia* take very little care of antiquities, and are very little acquainted with letters or the sciences. The only man of learning and science, whom I knew there, was the bishop, of eighty years of age, born in *Friuli*; not in that island.

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The most honourable and valuable monuments of antiquity that deserve to be carefully preserved, are suffered to perish there, through the ignorance of the people. The only inscription that exists in good condition, and that is owing to its having been in the wall of the town-house these two ages past, is the following somewhat uncommon in its tenour:

T. PITIVS. T. F. MARVLLVS
 DECVRION. DECRETO
 PVBLICE ELATVS ET SEPVLTVS EST.

The island of *Veglia*, when it belonged to the kingdom of Hungary, was a feod of the Counts *Frangipani*, who had many other estates on the neighbouring continent. Those Counts reigned tyrannically there, and sowed the seeds of licentiousness, which are not yet rooted out. About the end of the 15th century, the Count *Giovanni Frangipani* ceded it to the republick of Venice out of necessity, as he had not only irritated his own subjects by his tyrannical behaviour, but also the king of Hungary. *Antonio Vineiguerra*, the first author of Italian satires, went in the name of the senate; to take possession of the island, and drew up a good narrative of the state in which he found it. From that time *Veglia* became a feod of the Doge, who elects all the beneficiaries, such as canons, priests, abbots, &c. and has a kind of sovereign authority in ecclesiastical matters. This dependance on a lay superior residing far off, renders the clergy rather disorderly, and, in general, of not very edifying moral characters; and a bishop who attempts to do his duty, is exposed to much opposition and trouble. The Doge of Venice cannot attend to petty complaints of the clergy; and the ministers appointed for that purpose, are often more apt to profit by the disorder,

order, than to remove it radically. A priest, for example, accused of defloration, has only to pay fifty *paoli* for a full acquittal, according to the law of the island. There goes a story of a priest, who, being come to pay his penalty, after he had laid down his fifty *paoli*, went on counting out more, and being asked why he did so, answered: "I pay before hand for the next defloration of which I shall be accused."

The Greek superstitions subsist almost all over the island of *Veglia*, though there is no clergy of the Greek rite in it. The present worthy bishop *Monf. Zuccheri*, has not been able to eradicate but a small part of these superstitions, and his well meant and zealous endeavours to extirpate the whole, involved him in very disagreeable contests with his flock.

The whole island of *Veglia* contains about fifteen thousand inhabitants, of which, about fifteen hundred live within the city. In former times, and till the beginning of this century, the inhabitants of the city spoke a particular dialect of their own, somewhat resembling that of *Friuli*; * but at present they generally use the Venetian dialect. In several villages, the old *Veglian* language is still in use, and in some others they speak a mixt jargon of Carnian Slavonic, Latin and Italian, particularly in one village called *Pagliza*.

Of

* Here is an example of the *Friuli* dialect: *La Isla de Vicla circondata da torno dall' jague de mur ziraja circa miglia chiant; ce facile all' approdor de burche de runqua grandezza nei zu puarich*, which means: *The island of Veglia surrounded by the waters of the sea, is about a hundred miles round, it is of easy access for barks of any size in its ports.*

Of the Ruins of FULFINIO.

Concerning the other ancient city of this island, which bore the name of *Fulfinio*, no memorial is extant in the public records, and I could discover no vestige of it above ground the first time I was at *Veglia*. In all my rambles through the island I found no place that bore the characters of antiquity, either Greek or Roman; or of ages antierior to the tenth century. But the worthy bishop *Mons. Zuccheri* was more fortunate, notwithstanding his great age, in one of his visits to the mountainous part of his diocese. He was driven by a storm to a place, where, without doubt, there had been a considerable ancient settlement, and probably the city of *Fulfinio* once stood. The bishop was pleased to communicate his discoveries to me, and I shall here insert a part of his letter to that purpose: "I embarked in order to pass from *Besca* to *Verbenico*; but an impetuous boreal wind, arising out of the caverns on the Austrian coast, forced me, about mid-way, to take shelter in a port called *Mala-luca*, where I was obliged to pass the night, not much at my ease. Next day, at sun-rise, the fury of the tide made us resolve to go on shore. We soon found ourselves on a plain of small extent, surrounded by very high and rocky hills, from whence the wind rebounding descended with inexpressible fury. In looking about for a place to pitch our tent, we discovered an ancient wall in a very ruinous condition, by the side of which we were forced to remain two days and two nights; for the obstinate storm continued all that time. However, notwithstanding the wind, finding myself in a place I had not seen before, and seeing the small plain scattered with ruins, not to remain idle, I resolved, together

"with

“ with my company, to see if there was any thing worthy of
 “ observation. Nor were our endeavours altogether frustrated.
 “ The rubbish, and heaps of stones of ruined buildings, and
 “ the remains of walls and habitations occupy a space of about
 “ two miles round. On the left hand of the port, are still dis-
 “ tinguishable the ruins of a kind of small fort which command-
 “ ed it; and, at a little distance, are seen the remains of the
 “ walls of a vast building, which doubtless belonged to the
 “ christian times, and probably was a monastery. In the centre
 “ of these ruins, there is a small church uncovered, not above
 “ ten feet broad, and about twenty long; it has a porch before
 “ it, and a chapel, or internal sanctuary, after the Greek man-
 “ ner, on the roof of which are some remains of sacred painting.
 “ Beyond that, there is a hill of easy ascent, on the top whereof
 “ is a building of hewn stones, about half a mile round, with
 “ ramparts like a fort, and some ruined habitations within it.
 “ All this was attentively examined by me, and those in my
 “ company, and we concluded that we had thus by accident
 “ discovered the situation of the city of *Fulfinio*, which flour-
 “ ished in the times of Pliny and Ptolomy. Besides the extent
 “ of the ruins, which indicate rather a city destroyed than a vil-
 “ lage, I was further convinced of the remote antiquity of this
 “ place, by some pieces of columns of greek marble, granite,
 “ &c. For what cause, or what time it was abandoned or de-
 “ stroyed, is not easy to ascertain; but if the inhabitants volun-
 “ tarily abandoned the place, it is probable they did so on ac-
 “ count of the fury of the wind, which would interrupt their
 “ communication with the rest of the island, ruin their planta-
 “ tions, and even carry away their cultivable land from the sides
 “ of the hills.” The venerable old prelate found no inscriptions
 there; though it is probable, that if the rubbish were moved at
 leisure,

leisure, and, by an intelligent hand, some speaking monuments of *Fulfinio* would come to light.

Of the most remarkable Places on the Island.

The principal villages of the island of *Veglia*, are *Castlemuschio*, *Dobrigno*, *Verbenico*, and *Besca*; there are besides, several other lesser villages, and many scattered hamlets. *Castlemuschio* stands on a rock at the western extremity of the island, on the sea side, and enjoys an extensive view of the sea, and the opposite Austrian continent. From the small port of this village, there is a streight passage to the city of *Fiume* in *Croatia*, which is twelve miles distant. The narrowest part of the channel, which divides the island of *Veglia* from the continent, is not far from *Castlemuschio*, at a place called *Vos*; but it is not frequented, unless when the storms render the other passage dangerous.

There is nothing worth observation in the village of *Castlemuschio*. The priests of that church shewed us, carefully preserved, two pieces of willow, easily known by their bark, assuring us they were part of Moses's rod. In the same recipient, in order to join the Old with the New Testament, they made us observe some rings of a chain with which St. Peter was bound in prison. The ignorance and superstition of those priests is shameful; and it is much the same all over the island.

In the district of *Castlemuschio*, there is a fine tract of land, partly ill cultivated, and partly left wild, on account of the unwholesomeness of the air; they call it *Lughe*, or lakes, because, in rainy winters, it remains covered with water; and, in sum-

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mer, it becomes dry again. Near the middle of the island there is a permanent lake called *Panigbe*.

Dobrigne is a village at some distance from the sea near the centre of the island, and famous in that country for the beauty and compliance of the women. The Counts *Frangipani* had a villa there, which now a days an ordinary tradesman would hardly deign to inhabit. There is a prodigious number of priests at *Dobrigne*, as is generally the case over all the island; and hence they are ragged, miserable, and reduced to exercise the lowest trades, such as shoemakers, coopers, &c. But their indecent and immoral way of life is much worse than their poverty, and there is no appearance of amendment, while the power of the bishop is so restrained in correcting vice, or establishing discipline and good order.

The dress of the peasants over all the island is of a coarse kind of cloth of a black colour, and consists chiefly in a cassock, and a pair of long and wide breeches, which reach down to the middle of the leg; a number of people assembled together in this mourning kind of habit, forms a melancholy spectacle. *Verbenico* is also a village, though commonly called a Town; and lies at eight miles distance from the City of *Veglia*, on the other side of the island, towards the channel of the mountain *Morlacca*, with a small, and bad harbour, opposite to that of *Novi* on the Austrian shore. *Verbenico* stands on a rock, above a small and not unfertile plain, watered by several brooks. The name of the place is derived from the willows that grow in plenty on the sides of the brooks, and are called in Illyric *Verb*. There are a great many cattle on this part of the island, and particularly horses of that small, strong and sprightly breed well known in Italy, and much used by Ladies and

and young gentlemen for riding horses. This part of the country, notwithstanding the quantity of water, is healthy enough ; being well ventilated by the *Borea*.

I found a priest at *Verbenico*, who understands, much better than his brethen in those parts, the ancient Slavonic sacred or Glagolitic language ; he shewed me a manuscript wrote in that character, but it had little merit. Now a days the Glagolitic books must lie as a simple object of curiosity in the libraries, there being hardly any body who can read them distinctly, even in the places where the service is performed in that language ; and if there happens to be one who can read the character, there is absolutely none who understand the meaning.

The priests of *Verbenico* who have the charge of collecting the tithes, and of guarding the church, are obliged to sleep under a lodge open on all sides, and contiguous to the steeple, from St. George's day to Michaelmas ; that they may be ready at any hour to drive away the storms of hail, by ringing the bells ; and if the storm continues, it is their duty to go out into the open air bare headed, to conjure it. Perhaps no where are the bells more frequently rung than here ; and no steeple is more frequently struck with lightening.

Besca is a large place situated on the eastern shore of the island, at the lower end of a fine fertile valley, watered by a perennial stream, and flanked, on the right and left, by very high and steep marble mountains. The valley of *Besca* is seven miles long ; it rises, by little and little, towards the mountains, on the west, and forms a beautiful prospect, when beheld either from the

heights, or from the sea. The Bescians are industrious and skillful husbandmen, and the productions of their valley are exquisite of their kinds. The wine is of excellent quality, the ground being light and gravelly, and the plain warm and defended from the northerly winds. The village of *Besca* is crowded in the autumn by the principal citizens of *Veglia*, and of the neighbouring City of *Segna*, who come there to enjoy the pleasures of the country; it may be called the *Brenta* of the Croats. The road, however, is not secure for barks, and perhaps for that reason, the ancients did not chuse to build there; preferring the above described little plain of *Fulfinio*, as having near it the small harbour of *Malalucca*.

Of the Nature of the Soil of the Island, its Marble and Fossils.

The nature of the soil of the island of *Veglia* is generally stoney from one end to the other. The strata are all calcareous, for the most part horizontal, and almost all marble. The substance of the stone in general is the same as that of *Istria*, and frequently full of *Nummali*; and in many places there is a very beautiful *breccia* of various colours, fit for columns, pilasters, tables, and such like works. The finest *breccia* is found on the heights of the mountain between *Besca vecchia* and *Besca*; though it is also found in many other parts of the island, and very large pieces are often employed by the islanders in the meanest uses; they know it by the name of *Mandolato*. The high mountains of the island are generally composed of the above mentioned strata, and marble masses, from the bottom to the top, but the base of the island is of sand stone. The banks which are seen in the road of *Besca*, against which the sea beats, are of this nature; and a vast quantity of *Nummulari* may be distinguished in them. The same

same kind of stone, with some difference in hardness and colour, appears again in the neighbourhood of *Dobrigno*, where particularly it resembles the blackish volcanic *schistus*. The bottom of the country between *Dobrigno* and *Castelmuschio* is not of hard stone, as the high parts of the mountains are; but, in some places, it is composed of cetaceous scissile stone; in others of hard whetstone; and in others of calcareous marine earth, containing petrefactions. The large *Nummali* marmorised form almost the whole substance of some strata of hard stone susceptible of a polish. Near the Church of *Castelmuschio*, there is a mass of marine earth in which is found a great number of *Turbinati* by no means resembling those of our sea.

Between *Verbenico* and *Dobrigno*, near the little country Church dedicated to St. *Grisogono*, there is a very large deposit of *Nummali*, loose, and perfectly well preserved. I discovered this by chance, on seeing the peasants of *Verbenico* make use of these little stones in one of their assemblies, to give their secret vote. It seems evident, that the length of ages has, by means of the waters, interrupted the continuity of the marble strata, the remains of which still form the mountains of the island, wearing into hollows the vallies of *Castelmuschio*, *Verbenico*, *Dobrigno*, *Besca*, and other lesser cavities, and discovering the ancient depositions of seas peopled with species of living creatures, unlike to those that inhabit the waters now in our days. The human imagination, accustomed to look on this globe as of no very old date, is astonished to think how great a number of ages must have been necessary to excavate, by the means of small, and for the most part, eventual rills, the immense vallies which divide and subdivide the mountains; and if we were to begin to calculate, from the
notions.

notions or accounts we have of the elevation of the bottom of the sea in a century, the mind would be confounded with the hundreds of thousands of years that would be requisite to form, by the disposition of triturations and shells, such high masses of immense extent, and frequently of above a thousand feet in depth. But in what confusion and perplexity are we thrown, if we endeavor to conjecture from what mountains were derived, and by what rivers were stritulated, the quartzose sand which forms the base of such vast tracts of country, and from whence were detached the small particles of coloured flints, which, now and then, are found mixed together with *Ostracites* and *Nummali*. It is certain that the correspondence of the strata on each side of the hollows is perfectly exact, and that these interruptions are, in the most evident manner, characterised to have been made no otherways than by the very long operation of slow consuming waters ; and when we have meditated on the ways and the time requisite to effectuate the discontinuation and destruction of the stoney masses, it is but reasonable to reflect on the origin of the masses themselves. I confess that these ideas of longevity strike my mind every time I am among the mountains ; and hence I cannot satisfy myself with the various theories and systems which would explain collectively the origin of the greatest part of the mountains by the hypothesis of primitive formation. I know not if, from the beginning, it was necessary that our globe should have mountains to render it habitable ; perhaps those species of animals and vegetables which derive the greatest advantages from them, might receive equal benefit, from the plains elevated of necessity by the natural convexity of the superficies ; or perhaps the different modifications, of which animals and vegetables are susceptible, would solve the difficulties. However this may be,

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it is very certain, that a naturalist could hardly pretend to indicate mountains now existing with characters of primitive figure, if we except those thrown up by Volcanos, or visibly insulated some way or other from the time of their formation. It may be said in general, that the authors of systems on the origin of mountains have not examined the effects of the waters with an attentive and unprejudiced eye; some of them, who did not want talents for calculation, suffered themselves to be frightened, at the immensity of ages necessary for performing those slow corroding labours; as if it were a reflection on the author of nature to give a very remote antiquity of origin to his works. But we will return to the island of *Veglia*.

Products and Commerce of the island of VEGLIA.

Horses of a small and middle size make an article of trade in this island, though it is not every year of equal importance. The oxen are small and weak: the number of sheep on the island may be about fifty thousand; but their wool is not much esteemed, perhaps because they are abandoned to all the injuries of the seasons in the woods, and among the rocks contiguous to the island. They have hardly corn enough for four months provision; but, in recompence, they make above twenty four thousand barrels of wine for exportation; that of the valley of *Besca* is esteemed the best. The firewood sent yearly to Venice amounts to about five thousand sequins. Salt fish is also an article of some importance; but that being a precarious product, it is not possible to ascertain the annual value; and, besides, the peasants of *Veglia* are generally more attentive to agriculture than
to

to fishing, and sell all the fish they catch in small parcels in the Austrian state. They take the same liberty, though contrary to the laws, of selling their other products, such as oil, figs and almonds, which are not inconsiderable articles, without the Venetian State.

ITER

ITER BUDA HADRIANOPOLIM

ANNO MDLIII EXARATUM

AB

ANTONIO VERANTIO

TUNC QUINQUECCLESIENSI,

MOX AGRIENSI EPISCOPO,

AC DEMUM

ARCHIEPISCOPO STRIGONIENSI,

REGIO IN HUNGARIA LOCUMTENENTI,

MAGNO REGNI CANCELLARIO,

ATQUE

S. R. E. CARDINALI ELECTO;

*Nunc primum e Verantiano Carthophylacio
in lucem editum.*

THE BUDA HADRIANOPOLIS

AVONIO VERRANTO

THE QUINCECELESTIAL

THE HADRIANOPOLIS

AC DUBUM

ACQUAINTANCE STENOGRAPHY

THE HADRIANOPOLIS

MAJOR HADRIANOPOLIS

ADRIAN

THE HADRIANOPOLIS

THE HADRIANOPOLIS

THE HADRIANOPOLIS

A

OPTIMO AC PRÆCLARO VIRO

COMITI

FRANCISCO DRAGANITIO

VERANTIO

SEBENICENSI PATRITIO

J. U. D.

PRISCÆ HOSPITALITATIS

AC LITERARUM CULTORI

EXIMIO

FRAGMENTUM VERANTIANUM

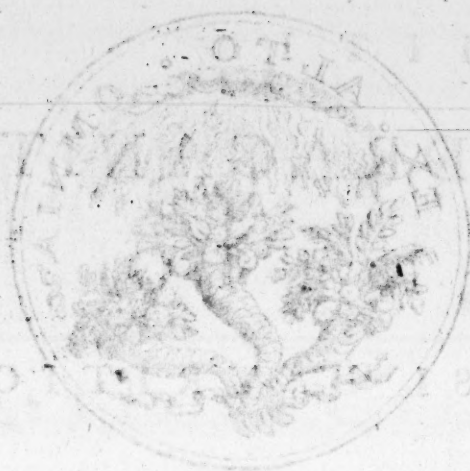
MERITA LUCE DONATUM

GRATI DEVINCTIQUE ANIMI

MONUMENTUM

D. D. D.

ALBERTUS FORTIS.





Ex Numismate argenteo.

ANTONII VERANTII

SEBENICENSIS

ITER BUDA HADRIANOPOLIM.

DECIMA octava, & vigesima prima Julii MDLIII. a Passa Budensi
auditi, qui nobis se humanissimum exhibuit, & non solum nobis-
cum familiariter, sed & civiliter præter omnem suæ gentis morem collo-
quutus est. Nec mirum; dicebatur enim litteras didicisse. Quæcum-
que autem apud eum volumus pro voto gessimus. De conjuratis tan-
tum Petrovii nonnihil laboravimus; quibusdam auxilia ex Temesvaro,
Zegedino, & Zolnoko in Isabellæ Reginæ gratiam suppeditabat, quod
expresse agebat contra inducias. Eo tamen diversis modis avvocato ab
ejusmodi tumultibus, induximus tandem ut polliceretur se nihil præci-
pitaturum antequam nos Constantinopolim veniremus. Daturum se
etiam ad Petrovium litteras, qui ex Munkach dicebatur jam cum aliqui-
bus

bus copiis adventare Varadinum versus, ut interim conquiesceret, & a suo principe expectaret quid facto vellet. Cavit tamen studio, & conatu diligenti ne Stephanum Dobò novum Vaivodam Rex noster mitteret in Transylvaniam cum exercitu: sed Andream Bathorem, qui jam annum Vaivodatu eoungebatur, ibidem confirmaret. A cogendo autem exercitu contra Petrovium, & ejus conjuratos, quem cogere magna fama ferebatur, desisteret omnino: quia si pergeret in hoc conatu Rex, nec ipse passa amicos principis sui esset deserturus.

Hæc xxv ejusdem mensis per veredarios Regi nunciata. Passa nos perofficiose salutato navibus grandioribus victi IIII, & comitati VI Hassadis classario milite instructis tutelæ causa movimus è Sicambria, Budamque, ac Pestum præternavigantes, utraque ex urbe magno bombardarum fragore honoris ergo prosequuti, ea ipsa die ad oppidum Räskevi v milliaribus Pannonicis a Buda distans pervenimus, ibique noctem insequentem exegimus.

Die xxvi naves ingressi tribus horis ante lucanum tempus primo noctis crepusculo Tolnam venimus, quod oppidum a Räskevi XII disjungitur milliaribus. Nec alium insignem aut nominatu dignum locum ripis Danubii imminemtem in eo tractu vidimus quam oppidum Pacchos, vinetis tantummodo circumdatum, & III ad Tolnam milliaribus nostris pertinens. A quo oppido Pacchos Paxiorum quoque familia denominatur, quæ quidem & vetus, & clara est, censeturque jam a multis annis in primorum ordine.

Tolnæ hac exacta nocte, & die VII supra xx alto jam Sole inde profecti, noctem quoque insequentem, & diem xxviii continenter navigavimus, donec luce ad occasum inclinata ad Erdevod arcem, quæ ad Titulientem Præposituram olim attinebat, appulimus. Nec in hoc tractu quoque, qui terra xx fere & III milliaribus, aquis paullo minus quam duplum facere perhibetur, multa vidimus loca, quod compendia rimati fluminis inter insulas tantum sylvis obstitas, & solitudine horridas cursum tenuimus navigationis. Periclitati alioqui sæpius dum per angustiores quosdam

quosdam meatus fluminis vorticosis mœandris fœdos, & arborum trun-
cos mediis aquis hic illic inhærentes, tanquam scopulos nimis hostiles
navigantibus vitabundi enitimur. Nec dies tantum quantum nox &
pavoris, & periculi attulerat, verum auspice Deo illæsi evasimus, Batha
olim sacro sanguine, Mohacio Ludovicis Regis clade memorabili mini-
me viso. Quæ autem loca nos, vidisse contigit, quum navium libuit
reſtoribus redire in juſtum alveum, hæc ſunt. Kemzeg Arx familiæ
Orbaſſinorum in dextra Danubii prorsus diruta, & deſtituta, ſitaque
olim in amœno loco, cui adjacebat clauſtrum Pauli Heremitæ. Dein-
de oppida nominata Vereſmarth, & Lazkò. Mox Dravi fluminis oſtium,
a quo Valcò comitatus ſumit initium, & Baroniensis deſinit. Poſt
Arcem, Erdevod, de qua ſuper nullo honore habitata. In ſiniſtra op-
pidum eſt Pathay, Baian Caſtellum nuper ab Agrienſi præſidio concre-
matum, & Zeremlenium vicus non obſcurus priſcis temporibus, nunc
parvo admodum poſſeſſus homine. Deus bone! quam ubique optimæ,
& fœcundiffimæ terræ triſtis nobis facies apparuit, quam inculta omnia,
quam & agri, & vineæ veprium horrore infeſſæ, quam omni in loco
rarus agricola, rarum pecus, & crebra ſolitudo! Noſter nauclerus homo
Raſcianus referebat, quod qui olim ſalvo noſtro Imperio una in villa
numerus erat colonorum, nunc in xxx vix par inveniri poſteſt. Quid
de deletis pagis cenſeas dici poſſe, quorum jam etiam nomina interi-
ere? Verum enimvero dum tuemur, & conſideramus Dravi oſtium, montem
quendam altum & acutum verſus civitatem Quinquececliarum conſpexi-
mus, quem quum rogaviſſemus quinam mons eſſet, accepimus Harſanum
ab indigenis vocitari. De quo mira narrabat meus collega Zay, quæ a
veteribus accepta in Hodiernum diem miraculi vice referri ſolent. Eſſe
in ejus cacumine pervetuiſtam, et jam deſolatam arcem, in eaque puteum
ſupereſſe profundum & cavernoſum, in quem quicquid dejeceris, quod
natura libratur nec in ima demergitur, eſſuere in Dravum, qui ei in
quinto noſtro ſubſit milliario a ſeptemtrionibus. Reſ autem in anate
aliquando dicitur præbuiſſe experimentum, quæ projecta cum ſigno alli-
gato in memoratum puteum paucis diebus poſt viſa eſt cum eodem ſigno
nare per Dravum.

Apud

Apud Erdevod vix cœna sumpta ubi primum illuxit luna solvimus, & enavigato duorum milliarium spatio arces inibi existentes Boroh, & Valco videre per noctem non potuimus.

Die vero insequenti xxiiii cum ortu solis apparuit nobis Arx Zatha nomine, quam Turcæ haud ita pridem solo tenus diruerant. Inde jam penes amœniora loca, & ubique iusto Danubii alveo tenentes cursum, occurrit nobis Arx Atthya ipsa etiam disturbata, ultimus Valco comitatus limes, & primus Syrmii. Atthiæ proxima Vylacchum est, quam Rasciani Ulok vocant, multum olim memorabilis, ac ne nunc quoque obscura, curaque diligenti custoditur a Turcis. Erat autem olim Ducis Laurentii, & ejus cognomine utebatur quia habebat hæreditariam. Habuit Vylacchum proventus maximos. Cæterum unum ultimæ conditionis habitum non prætermittam referre, qui appellatus est obolaris ab unius oboli collatione. Nec succurrit quibus ex rebus proveniebat; ejus tamen summa pecuniæ ascendebat ad vi millia aureorum; feruntque eam pensionem supra quam dici possit molestam, & onerosam semper fuisse subditis. Quare sæpenumero xx millia aureorum Duci suo quotannis pendere voluerunt si eo proventu eos liberasset. Exorari tamen numquam potuit; & professus est si centuplum pendissent se non facturum, ne ejus institutores injuria afficeret. Unde quatuor primariorum Regulorum Hungariæ Thomæ Strigoniensis Archiepiscopi, Stephani Bathorej, N. Orzagi, & Laurentii Ducis iv facete dicta memorantur. Primis tribus tria erant oppida. Priori Kemencze quod *fornacem* significat; proximo Karon quod *damnum*, tertio Gengies quod *uniones*, quarto proventus obolaris quem Fyller vocant. Quum igitur tres illi a Strigoniensi Archiepiscopo convivio fuissent aliquando excepti, mutuoque inter sese de magnitudine opum familiariter concertarent, Stephanus forte Bathoreus prior per extenuationem damnosi nominis tantas sibi opes esse diceret, ut ex damno etiam redditus illi maximi provenirent: subjunxit N. Orzagus suas vero tantas ut canes, etiam apud eum in unionibus ambularent: Laurentius Dux protulit obolarem redditum: Thomas demum, quia e re nata hic sermo in medium prodierat, cupiens ipse etiam

etiam aliquid afferre simile, subita cogitatione ditionem suam percurrit ac inquit: Domini, mihi quoque fornax est, aut malitis Stuba, ea amplitudine ut aliquot millibus hominum hospitia suppeditare possit.

Ab Vylaccho Corosca castellum, & mox Banmonostira, Syrmienfis olim Episcopatus sedes, Arx quondam cum oppido non incelebris, & edito atque ameno loco, Danubioque imminenti posita; nunc jam solo situ, & exili vestigio ruinarum nota, nec colono ut ante possessa multo, desolatis, & in solitudinem redactis innumeris tractibus vinearum, quibus a continenti latissime in coronam vallabatur.

Non prætermittam de Cierevogii quoque Arce quæ fuit Valentini Terek meminisse, cujus & Atthya supra memorata erat, ambeæque iisdem pollebant dotibus, atque eodem situ, sed similem fortunam sortitæ ut aliæ solo sunt æquatæ.

Hinc oppidum Kamoncz attigimus frequens olim habitatoribus, & Sacerdotibus, & literariis ludis celebratum, unumque inter alia quæ in Syrmio habuerunt existimationem non postremum, sive opes & ubertatem loci respicias, sive oppidanorum nitorem, & industriam. Centum quinquaginta domos lapideas exstructas, & decenti ordine positas, ne luteas easque numerosas reliquæ plebis casas enumerem, in eo videre erat. Nunc omnino vix cernuntur xv stramineæ. Ferunt loci incolæ vii millia vini doliorum effusa fuisse in oppido quum initio a Turcis eversum est, & instar non exigui rivi aream fori, quæ oppidum modica concavitate dirimebat, fluxisse genu tenus.

A Kamoncz Varadinum Petri cum occasu solis pervenimus, ibique totam noctem exegimus non ausi per tenebras navigare propter molas oppidi Karon, quæ majore numero per eum tractum Danubii collocatæ impediabant cursum rectiorem.

Die posteriori xxx ingressi navigationem prodeunte aurora Karon oppidum primum vidimus, ubi etiam Arx olim fuerat, sed a Turcis jam

disjecta est. Huic oppido etsi pristinus decor ademptus sit, & diminuta domorum habitatorumque frequentia, nullum tamen a Tolna visum est nobis esse hoc Karonte magis incolume, magis frequens, et agrorum vinearumque culturis perpolitum, & in quo solo id temporis vinum Syrmienſe retinet existimationem aliquam veteris valoris, adeo in locis reliquis ea cura destitutæ sunt vineæ. Apud hoc oppidum mons Almus, antiquis nostris Frusca appellatus desinit, qui ab ora quæ Atthyam, & Vylacchum Arces discriminat incipit, vinoque singulari notus est, cujus vitam probus imperator primus ex Italia allatam plantasse dicitur. Habet hic Mons XII circiter milliaria longitudinis, latitudinis tria ubi latissimus, totusque ex omni parte per latera, & radices vinetis cultus; juga sylvis amcenis virent, ac densantur citra horrorem. Nunc, quod deplorandum maxime est, vix e regione Danubii, cui grato atque aprico aspectu, spatiosoque satis sufficienter et leniter imminet vertice, omnino xx vineas non ostendit viatoribus: quum olim nullus a sylva locus vacuus non erat vitibus confitus, præsertim vero qui in tumorem magis excreverat, & incumbentem in se propius meridianum solem excipiebat.

Ubi autem hic mons apud Karontem ut dixi desinit, mox eodem loci finditur bifariam, eaque pars quæ petit mediterranea in sinistram regionem vocatur Albus, pars altera, quæ a Danubii ripis non recedit, fortita est plura nomina, ut sunt locorum quibus imminet. Hincque est *Karon beggye*, id est Karontis mons, et id genus alia.

Karontem sequitur Zalonkemen, & Titulium Arces cum oppidis, ex opposito invicem Danubio utramque interfuentem alveo latissimo sitas: eaque erat ditionis regiae, hæc habebat præpositum, tantoque Titulium Zalonkemeni integrus et frequentius esse cognovimus quanto de Karonte dixeramus. Sed id quidem ex auditu, quia sub ipsis muris Zalonkemeni transivimus, Titulium a longe inspeximus. Nec refert de ruinis excidioque, ut putamus, dicere: quia cuncta ruinæ, desolatio, & solitudo habet. Hoc tantum adjiciendum duxi, quod Tibiscus amnis ex Carpato monte per Comitatum primo Maromarusianum fluens, deinde per Cumanorum campos in superiore Pannonia sitos lapsus Titulii aluit

luit promontorium, quod habet in dextro latere. Inde paullo ultra cursu proventus, & in paludes sparsus uno tandem ostio Zalonkemeni opposito in Danubium cadit. Adjacet in hoc loco Titulio longior quædam quam latior palustris planities, eaque adeo humilis, & depressa est, ut quotiens vel Danubius vel Tibiscus excreverit aquis tota occupetur. Nec idonea esse potest usibus bellicis, quod aliquando meminisse me audivisse.

Eadem die ad Zalonkemenum, et dein Zemlinium, quod citra Belgradum parvo spatio positum est, pervenimus. Arx olim fuit, et oppidum obsidendi causa Belgradi priscis factum temporibus a nostris Hungaris. Nunc solo æquata Arce oppidum in pagum redactum. Zalonkemenum autem Arx est similiter et oppidum; eaque in editiore ripa sita est, oppidum ima tenet, vallatum quidem muro lapideo, sed tenui, et vetustate ac hyemali æstu fluminis magna ex parte ubi collapsum ubi perforatum. Arx perinde æque & imbecillibus, et ruinosis præ vetustate mœnibus eminet: nullo insigni ædificio memoranda, et in declive ad flumen pender. Poteramus ea adhuc die appellere ad Belgradum, quum a Zalonkemeni nonnisi IIII miliaribus nostris distet. Verum quia conductoribus visum est ut mane eo perveniremus, usi per eam noctem lenta remigatione, et prope solo cursu fluminis vecti, circiter mediam noctem Zemlinium advenimus, ibique reliquum noctis exegimus.

Julii die ultima cum sole surreximus, Belgradoque circumspicientes, & mirantes omnibus sæculis præclarum loci situm successimus, quem ut describerem quam proprie fieri potuit vetus jam dudum videndi desiderium fecit.

Ubi enim Zalonkemenum, et Zemlinium prætervexeris secundo fluvio in meridiem a septentrione venienti occurrit Belgradum, moxque hinc torquente se in occidentem Danubio sub ipsis mœnibus ab occidente tergo recipit Savum, lato quidem ostio, sed nec violento, nec præcipiti. Sine æstu veluti in amicitiam quandam, & consanguineitatem invicem copulantur. Jam hoc loco eminet ripa paullo in aquas prominens pen-

densque a septentrione, et ortu, et occiduo; quicquid a meridiana plaga habet continens id planum est et late fufum, nec nisi in tumulos, et mediocres colles affurgens. Ubi vero Belgradum sedet porrectum et æquale jugum est, quod et Arcem, et Urbem simul sustinet. Verum in oriente ipsa Urbs quadrata, in occasu triangulari forma Arx posita est, eaque parte qua in acumen turbinatur Urbi inseritur, turribus et hæc et illa in vetustum morem pluribus et frequentibus exædificata. Nec dubium est veterum et Græcorum, et Romanorum in vestigio fuisse Belgradum conditum. Arx tamen nec ingens, nec ædificio eximia. Cæterum magis ad aquas videtur vergere, et muro ac duabus turribus discreta ab ipsa Urbe est. Unde duplex appellatur, eaque Turris quæ genti semper fuit nominatissima, *Neboye* nomine, posita est in hoc discrimine, nullo nec decore, nec munimento insignis, sed quia crassior cæteris, et in qua campana tenebatur, qua quum in hostes procurrendum fuit signum dabatur militi ad arma rapienda.

Sed præter hanc Civitatem, quam in jugo sitam, et cum Arce computatem esse diximus, alia Civitas adjacet a jugo ipso ad Danubium usque fusa, sicque inclusa mœnibus in rotunditatem aliquot angulorum prout ripæ ejus conditio exposcebat circularis ab ipsa summa Civitate et Arce ductis, ut in duabus ejus extremis angulis juxta aquas ripense propugnaculum in Arcis modum existat. Et hæc in septentrionem Danubio et Savo opposita sita est.

Declivia jugi orientalis, ubi sunt portæ Civitatis superioris, et meridiam continentem, quam ad muros usque planam esse dictum est, occupant latissima, et frequentissima suburbia hortis immixta. In occasu, in quo Arx est collocata, ingens et amplum penu est annonæ bellicæ, quod semper refertum tenetur ad usus expeditionis generalis. Nec aliud juxta est suburbium quam Procuratorum, et Custodum penu, paucae aliquot habitationes, et servitorum tuguria.

De Belgradi nominibus dicere non omittam. Albam Graecam appellavere veteres, credo a Græcis conditoribus, qui ea loca initio tenuerunt:

runt: quod e Strabone etiam in vii cognoscere licet, qui Dacis has regiones, quæ olim Mœsiæ appellabantur, dicit fuisse propinquas, ne & successam nationem Græcis ritibus et religioni addictam, Rascianam scilicet commemorem, et aliud de Græcorum Imperio, quod latissime olim fines protulerat.

Romani postea Taurunum vocavere, ut in Ptolemæo, et in aliis Geographis videre est, cujus rei ratio non omnino facile reddi potest.

Hungari Handor Albam nominant, a vicino colle latiore quam altiore vitibus confito, qui mons vulgo *Handor beggye* etiam nunc appellatur.

Ab indigenis, qui sermone Illyrico utuntur, *Slavni* vocatur *Biograd*, hoc est gloriosum sive famosum a virtute militum Ducumque, qui in præsidio ejus successivis temporibus manserunt ab amisso Zmiderovio, et Rascianorum Imperio.

Jam postremi Scriptores Belgradum nominant a vicinitate Illyricæ dictionis *Biograd*. Ubi notandum est quod hæ Nationes Illyricæ ut plurimum sedes suorum Principum hoc nomine solitæ erant olim insignire, ut de hoc Belgrado, de Alba Regali, de Alba Julia in Transylvania, et de Alba Nezer Arce ad Tyram flumen sita videmus, quæ omnes dicuntur aliquando sedes fuisse Principum. Sed Belgrado Insula est opposita amœna satis, et aptissima rebus gerendis.

At prima die Augusti, relictis in Portu ad Belgradum navibus, ubi Mysiae superioris est initium, terra Zmiderovium versus iter inivimus, semperque ad Sarnovo Arcem summo in monte dextrorsum sitam respicientes ad Grockam pagum, ubi et Castellum est, quod jam paullo prius quam a triennio contra excursionses Temesvariorum Turcae extruxerant, pervenimus, atque ibidem nocte exacta secundo Zmiderovium primis diei horis applicuimus, locum sane et Arce, et Urbe, ac suburbio dignum memoratu. Jugum enim quod adjacet Zmiderovio qua parte respicit Danubium abscissa fronte est, et leniter ab imo eminet; caetera in
longum

longum tractum porrectum, totum fastigio ac tergo planum est late-
 fusum, nec nisi solis vineis, & fructifera arbore per magna spatia circum-
 excultum. A radicibus ejus exit planicies veluti animantis cujusdam
 inferius labrum duum circiter millium passuum secundum ripam longa,
 vix vero dimidium lata, eaque penitus in flumen abiens multum & hu-
 milis & depressa sic, ut minimis etiam incrementis Danubii submerga-
 tur. Zmiderovium urbem summa hoc loci excipit ripa. Ejus autem
 Urbis forma triquetra est, longior quam latior, altis moenibus ac xxx
 circiter turribus rectis, quadratis, æqualibus, & dimidiatim foras pro-
 ninentibus, interiore in vetustum morem patentibus, apertis, tabulato-
 rumque serie distinctis, magnitudine mediocri, Sopronio tamen nostro
 paullo amplior. Cæterum cornu tertio adverso amni opposita, in secun-
 do quo aquis alluitur Arcem habet prorsus civitati insertam, & validi-
 oribus atque altioribus tribus turribus emunitam, foris vero qua in
 montem respicit tota vallatur pomoerio, quod in quolibet latere tria
 ostendit propugnacula; fossæque muro incrustata ac longe profundiore
 cincta est quam flumen altum sit, adeo ut quum eam repleti usus postu-
 lat non immittuntur, sed infunduntur aquarum latices. Quo fit ut e re-
 gione quoque fluminis agger, vel potius moles quædam factitia fossæ est
 circumjecta paullo aquarum superficiem exuperans, quo hyberni glacie-
 rum æstus a muris arceantur, fossæque ipsius concavitas ab arenarum
 influxibus tueatur, quas annium violentia soleat aggerere. Cæterum
 loca hic aliquot aperiam Cl. Ptolemæi quæ fortasse hætenus multis
 fuere ignorata: quamquam & ipse falli possim, nihilominus ostendam
 dubia me conjectura non fuisse ductum.

Est in inferiori Pannonia quintæ tabulæ Europææ lib. xi cap. xvi in
 civitatum nomenclatura Teutoburgium, Cornacum, Acumincum, Rit-
 tium, & Taurunum. Et mox in superiore Mysia, quæ nunc dupliciter
 appellatur Servia, & Rascia, quum sit una atque eadem regio Tabulæ
 Europææ ix. lib. iii. c. ix. Tricornium nomen similiter civitatis, &
 fluvius Moschius, & item Nys, ac tandem Ulpianum civitates. Quæ
 etsi sæpenumero legerim alias et mecum altius considerarim, consultis-
 que

que etiam aliis auctoribus, & multis hominibus locorum eorum peritis, atque etiam inibi incolentibus, cupidus aliquid veritatis elicere, numquam tamen rem propius visus sum perspexisse, si modo perspexerim, quam iisdem locis visis & peragratis. Igitur quum a Belgrado ad oppidum Nys, qui tractus, ea via quam nos egimus, tota sit latitudo Mysiae, nullum aliud flumen vidimus præterquam illud quod Moravam incolæ vocant. Visa etiam ejus eruptione in Danubium ad Zmiderovium sub ipsis pene mœnibus e regione orientis, quo loco Tricornium ponit Ptolemæus, sine dubio in eam veni fidem, ut & hic Morava Moschius sit, & Zmiderovium Tricornium. Quandoquidem nec ab re inditum fuit nomen huic civitati Tricornio, quod in triangularem sive tricorneam figuram sit condita, quemadmodum jam memoratum est superius de Zmiderovio. Nec id, ut asseram præsentis muros eos esse, quos olim Tricornium habuit. Verum in ejus fundamentis superstructos fuisse a Mysiae Regulis nequaquam eo inficias, & affirmare facile audeo id sese sic haberi.

Jam considerata positione Teutoburgii, ostii Dravi, Cornaci, Acuminci, Rittii, & Tauruni, quod nobis introitus Savi in Danubium per facile declarat, haud dubie & Teutoburgium quinqueecclesias, ut Cornacum Karon, & Acumincum Kamoncz, & Rittium Zalonkemenum esse dixerim, quemadmodum & Ulpianum Sophiam, insigne olim Dardanorum, nunc Triballorum sive Bulgarorum emporium in xviii milliario ab oppido Nys positum. Loca autem ejusmodi non carent vestigiis vetustatis, passim enim rudera, & murorum ruinas ostendunt.

Caeterum toto hæc ora Danubii dextera munita erat olim urbibus, & castellis per Romanos, in quibus præsidia tenebant militaria contra incursiones Dacorum, ut est videre in Strabone Lib. vii, ubi dicit Danubium quam longe per Dacorum agrum fluat Danubium vocari, postea Istrum, donec Pontum attigerit per Getas. Dacorum autem tractus juxta veterum limites ab ostio Tibisci fluminis ad cataractas Danubii erat. Ab his in Pontum Getarum terra censebatur. Nunc ii Valacchi, Transalpini,

Transalpini, et Moldavi sunt. Quod vero et Varadinum Petri & Zmiderovium opportunum loco ad arcendos Dacos positum sit nunc etiam apparet, quum quicquid est planitiei quæ Themelvari *puztba*, hoc est solitudo, appellatur, in qua duo etiam colles existunt insignes, & vicini inter se alter *Mezero somlyo*, alter *Er somlyo* nuncupatus, hoc totum Varadino Petri, & Zmiderovio velut sub oculis, aut sub specula quadam situm est facileque ad occurrendam omni hosti habet facultatem. Unde quandocumque etiam in ditiones sinistri lateris Danubii Turcæ excurrere, aut exercitum educere solent, semper ad Varadinum Petri vadum habent, ut nullo alio loco commodius.

Verum hic prorsus nos iii die Augusti digressi a Danubio, idem recta in orientem conversus est: Mysiæ nos interiora petiimus & gradientes dextro latere amnis Moravæ, terra nimirum ampla, fertili, nec minus pulchra, atque amœna, & montibus utrinque comitata, quorum juga memorosa agris erant referta. Cæterum eodem die Livadam pagum venimus, qui est ad torrentem Jessenizam, & sylvam Lomnizam situm. Quem locum dum peragramus, & inambulamus adverso torrente, didicimus domum Pauli Bakyth Venciaz nominatam haud longe fuisse, in qua olim antequam a Turcis ad nos transfret habitabat. Qui Paulus homo erat, ut scis, e Rascianis oriundus, & quum ob virtutes bellicas, quibus insigniter pollebat, tum ob fidem in Regem nostrum non vulgarem, dignus certe est ut ejus vivat memoria. Ut enim non obscure vixit meritoque inter ductores belli relatus fuerat, ita etiam obiit clara & memorabili morte, clade Joannis Coceaneri in Comitatu Valco apud arcem Ivancam (quæ erat ante quam a Turcis caperetur Francisci Zay collegæ mei) dum fugientis nostri exercitus qua frontem qua latera & demum omnes partes unus inter Duces, magno animo, & periculo suo protegendò, identidem in hostium insultantium procurrit cuneos.

Hoc pergentes tractu Turcas quosdam assequimur, qui equos ac mulos plenis hominum corbibus pellebant oneratos, parsque eorum, qui gestabantur in hunc modum, persona linei panni habebant testas facies, pars vero apertas. Quæ res etiam mihi præbuit causam quæstionis. No-
vitas

vitas enim ejusmodi, in solo tam a nostro alieno, monstri cujuspian fecerat speciem. Quid, inquam, sibi volunt personae Dyonisiales? quid ea hominibus jumenta onerata? Mercatoresne sunt, an furtivi aliqui? Responsum est. Onera captivos esse; caeterum qui persona tegebantur juniorum, & nobiliorum notare conditionem, quibus caveretur ne solis ardore ac pulverum injuria facies illorum laedantur & si qui forte fuissent suffurati e propinquis locis, ne agnoscantur. Reliquos mercatores esse, & alios ex ultima venisse Thracia, alios Asia, tamque extime ad confinia prodire consueſſe ut captivos ex copia vilius emant, charius in patria vendituri. Horrendum profecto, & lamentabile fuit spectaculum videre hominem venalem ut pecus, et tractari tam viliter.

E Livada pago egressi die IIII mensis memorati, moxque sylvam emensi non impendio magnam, quam supra Lomnizam vocari dixeram, in tertio circiter milliaro pervenimus ad vadum amnis Moravae *Derventb* a monte cui subjacet vocatum, quo et vicinus pagus nomine nuncupatur; eaque sylvae etsi brevis, et non adeo densa sit, latronum tamen insidiis infamis est.

Ubi autem flumen caepissemus trajicere alii Turcae occurrunt, inter quos unus erat caeteris habitu, vestituque amplior: et eos quinque Ægyptii, quos nunc Ciganos, sive Cinganos appellamus, una atque eadem catena colla vincti, et ordine tracti sequebantur, lamentabiles voces edentes, et egestatem excusantes. Quaesivi tum ii quinam forent, et quae causa catenarum? Retulere exactores esse tributorum, quae tam ex pecuniis, quam ex impuberibus proveniunt. Exhorruī nefarias decumas, et contumeliam.

Didici tunc morem fuisse olim quinto quoque anno hoc impuberum tributum legere. Nunc et secundo et tertio, idque severius quam pro lege consueta corripī enim etiam vetitos, pacisq̃ pretio avaritiae gratia, eoque extorto denuo restitui. Quo fit ut misera plebes, audito hujusmodi exactorum emissio, ubi eosdem adesse senserunt in sylvis abdunt liberos, vel amandant alio donec ea lues praeterierit. Qua inclementia

non utuntur victoriarum initiis, sed post, ubi longius protulerint finium pomœria, & jam adepta bene constituerint. Expendant hæc qui Turcarum sceptrâ expetunt, & iis clementiam erga genus nostrum inesse credunt. Ducti autem sunt hoc fuco et Graeci, et Mysi, et Thraces, et reliqui quique prius subacti. Nunc jam ad nos quoque translata eorum potentia reliquos omnes protrivere. Sed redeo. Trajecto amne Morava, paulloque ultra provecti, montem Lucavizam, quem e Scardo monte ab Illyriis in Mysiam usque procurrisse puto, cœpimus scandere, qui non quod arduus, quod acclivis, & difficili via sit infamem vulgo esse affirmant, sed quod numquam careat latronum frequentia. Vidimus in hoc tractu in sinistra ora amnis Moravae versus Danubium duos olim nobiles Comitatus Branicievo, seu Brancio alterum vocatum Hungaris, alterum Cuciaevō excelsō monte praeditum, cujus etiam partem praeterivimus. Montis inde Lucavizae trium ferme milliarium jugum jam ut dictum est initum, et prospere superatum: descendimus ad Jagodnam oppidum positum in planitie rotunda, spaciōsa, et corona prope lenium montium, hoc excepto Lucavizae, circumdatum gaudet optimi foli, & pulcherri mi situs conditionibus, et amne Morava, cui in dextra parte adjacet. Hoc in oppido domus erat Baly-beghi cognomento Kuciuk, qui Stephanum Mailadum fraude Petri Moldavorum Vaivodæ interceptum in Turciam captivum abduxerat. In quibus domibus, quae jam satis collapsae, et desolatae fuerant, ea nocte hospitati sumus.

Augusti quinta movimus Jagodna, usque ea die facili via, sed aestu perquam molestissimo, ad pagum Rasgni nuncupatum promovimus. Qui pagus situs est in vi milliario a Jagodna sub colle memoroso, dictusque incolis Rasgni, hoc est veruta, quod ea loci propter duorum montium arctiorem invicem concursum postremi Rasgianorum Principes, dum incursionibus Turcarum intime etiam pro foribus Zmiderovii, ultimae suae ditionis perfugii validius premerentur (quod Lazari temporibus fuisse memorant, quem ab Amnrathe magno Turca constat esse occisum una die cum Milosso Kobilith) obicem descatarum arborum ramis earundem mucronatis mutuoque nexu implicitis ac veluti veruta in adversos hostium incursus versis (Cervos appellavere veteres) objecerant; isque pagus tametsi antea aliq. nomine fuisset praeditus, postea
tamen

tamen crebris hostium irruptionibus vastatus ac deletus est. Successu inde temporis, quo jam subjugata ea regione Turcis parebant omnia, idem per veteres colonos restitutus quemadmodum mutarat dominum ita mutavit & nomen, dictusque est ab his cervis in verutorum formam fastigiatis *Rasgri*, quod vocabulum Illyricum est.

Proinde hoc primum loco, hospite nostro nobis referente, didicimus viam qua pergebamus stratam esse in Romanum morem, et Trajanam appellari, sumereque initium apud Belgradum, et ad Constantinopolim definere.

Miratus sum tanti Imperatoris memoriam adhuc apud tam rudes barbaros superesse. Verum non animadversa hac via a Belgrado ad hunc pagum, vel quod sit alio translata, vel terra obruta, diligentius illam observavi deinceps, et comperi rem ita esse. Porro eadem via constrata est lapide non quadrato neque grandi sed mediocri, eoque qui ubique obvius sit. Ejus autem latitudo ix est passuum soliti humani incessus, nec alibi usquam partem vel frustum illius integrius, & exactius vidimus quam in exitu ab oppido Nys, quod erat longum passus circiter cxl. In locis aliis modo a dextra, modo a sinistra, frustim occurrit, apparetque per intervalla, quod partim obtrita, & disjecta sit, partim luto obruta, & fruticibus hausta est, adeoque tam nobile, ac perpetuum opus male est intellectum, ut etiam vitetur sæculi hujus viatoribus, neque alio viatore quam pedite calcata, idque imbrium dumtaxat tempore.

Sexta inde Augusti, trajecto jam, & a tergo bis relicto amne Morava, venimus ad oppidum Nys, quod olim Nessus vocabatur & fuit non obscura Civitas. Nunc mercatorum tantummodo frequentia, ruinarum aggeribus, & prostratae, ac late jacentis urbis cadavere memorabilis. In qua quæ veterum Romanorum elogia lapidibus insculpta reperi, dedita opera vestigata, & transcripta hic subjunxi memoriæ causa, & tuæ benevolentiae gratia.

(I)

I. O. T. M.
CAPITOLI
NO EX BOTO P
NICA HERME
PRO SALUTE
DOMINI NO
STRI.

(II)

I. O. M.
PRO. S. D. N.
AVG. M. VLPI.
MARTINUS STR.
CoS. LEG. VII. CI
V. R. FUSCO. ET
DEXTRO CoSS.

(III)

D. M.
G. IVL. VINDICI
VET. VIX. ANN. LX.
ET AELIAE SERE
NAE EIVS. VIX. AN.
XXX. G. IVLI. HER.
MOCORANICI
L. FLORUS VESTRI
VS. ET TZITZIS
LIBERTI. ET AELIUS
FECVNDVS CoS
MVS. B. M. F. C.

(IV)

I. O. M.
PRO SA. DD.
NN. AVGG.
AVR. GAIVS
MIL. LEG. VII.
STR. CoS. Pos.

(V)

D. M.
VLP. AELIA
NVS VIX.
ANN. XXXV.
ATILIAE INGE
NUÆ CoNIVGI
B. M. P.

(VI)

I. O. M. FVL.
ET IVN. REG.
ET DEO LIE
ET HILA REG.
G. IVL. SERVAN
DVS VET. ET
FL. NVMISIUS.

(VII)

I. O. M.
DEPVLSORIO

(VIII)

(VIII)

I. O. M.
 PRO SAL. DD. NN.
 AVGG. MAR.
 VAES MIL.
 LEG. III. SIR. CoS.
 PO.

(IX)

DEABVS
 PLACIDI. FAV.
 VLP. LAETUS
 EVERSU
 EX VOTO
 PRO LIB.
 P.

(X)

D M.
 C. AVRELI. RVFINA
 VIXIT ANN. XXX.
 TOL. VALERIANUS
 CAPRINI CVL
 TORI. B.
 CONIVGI PIEN
 TISSIMAE FA
 CIENDUM CVRAVIT

(XI)

I. O. M.
 CAPITOL
 INO DEO
 ULP. RVF. EX.
 VO. PO.

Plures & inscriptiones ejusmodi, & alia scitu digna monumenta vetustatis hujus Urbis invenire potuissimus, si diutius in eadem nobis manendi, & liberius lustrandi facultas fuisset data. Nam passim et fundamenta veterum murorum e terra prominentium ostendit, & oppidanorum rare fere domus est, quæ aliquem non habeat lapidem Romani operis indicem. Verum non ultra ibidem immorati, quam tres ultimas ejus diei horas quo appulimus, et noctem insequentem, prohibiti interim etiam a comitibus itineris, ne pro arbitrato nostro vagaremur, vix hæc pauca corripuimus verius quam colligimus. Igitur omissis his redeo ad Nys, quod de incepto Nessum cum antiquis nominabo, situmque ejus pro virili parte mea describere conabor, sed paullo posterius, ubi prius totius hujus ipsius oræ qua processimus a Belgrado positionem demonstrabo, consideratis montibus, campis, fluminibus, & aliis quæ huc facere videbuntur; sumeturque hujus considerationis initium a Scardo Monte, qui juxta v Tabulam Europæ Ptolemæi junctus est ab occidente

occidente montibus Bebiis, a meridie vero Orbello ne ulterius commemorem ab usque ipsis Pyrenæis, a quibus omnes sumunt originem qui Catena Mundi appellantur, quod uno ordine ab occasu in ortum pro-
 vecti donec Scardum attigerint, inde a Scardo ad meridiem ducti in Pontum supra Mesembriam civitatem desinunt. Cæterum ubi Scardus a Bebiis contiguis recesserit, quicquid est per Dalmatiæ regiones, per Bosnam, Herzegovinam, et demum in reliquæ ejus plagæ Illyricæ montium usque Belgradum, & Zmiderovium, et medios cursus fluminis Moravæ, hoc totum Scardi est, teste eodem Ptolemæo in Tabula xx. Et hucusque, quemadmodum antea dixi eum ramos per tot regiones extendere, progressus, Danubiumque in orientem prosequutus, non ausus forsan cursu cum eodem certare in meridiem sese flectit. Ductus inde recto margine per xxii ferme nostra milliaria advenit ad Orbellum, sed minime illi adjungitur, amne Morava, quem diximus Moschium veteribus fuisse appellatum, prohibitus. Ortus enim hic Morava e radicibus Scardi in regione occidentis in orientem primo vehitur, eoque cursu Scardum suum hoc loci dirmit, quo qui Catharum sive Ragusium ire pergunt iter agunt. Mox in septentrionem versus Jagodnæ oppidi agrum perfluit, & illinc iterum ad ortum torsus saltum Lucavizzæ, qui in promontorii modum porrectus denuo Danubium sequi instituerat, circumvehitur, ac post in priorem rediens lineam paullo infra Zmiderovium, Danubio miscetur. Scardus vero hunc in modum cum amne Morava, & montibus qui ultra Moravam finistrorsum e Kuciaëvo exeunt, continuoque tractu cum Orbello quadamtenus, & cum Hæmo donec in eundem desinunt in inferiore Mysia magnis campis, & fertilibus interjectis, quos medios Trajana via insidet, hic coactus desinere nobis & de Orbello, et de oppido Nesso dicendi latius causam fecit.

Sed, & Orbellus non ultra xviii milliaria versus eandem plagam recta linea progressus Izcare amne, qui Ptolemæo Ciabrus dicitur, a conjunctione Hæmi prohibetur. Verum ad Nessim redeo.

Civitas olim fuit non incelebris, si et situm ejus consideres, et ruinarum cumulos; eique fuit nomen Nesso secundum Ptolemæum, ab amne Nesso,

Nesso, qui eandem positionem seu cursum habens quem etiam Morava oritur in Orbello monte qua est meridiei oppositus flexusque inde ad orientem per interstitium quo Hæmus, et Orbellus disjunguntur per oppidum Nessum labitur paulloque spatio unius milliaris illinc cursu proVectus, condit se in Moravam non multo infra eat angustias, quibus Scardus ad Orbellum non est admissus.

Sub hoc igitur Orbelli initio situm est Nessum oppidum loco plano, & satis amœno, nullo tamen decenti ordine vicuum distincto, et nisi mercatoribus abundaret, & antiquæ urbis tanta vestigia haberet, vici specie esset.

Montium autem, quos dixi a Kuciaëvo Comitatu provenire, nosque Constantinopolim pergentes a sinistra comitabantur spatio largiore quam quos in dextra habebamus, nomina consequi non potuimus partim ob celeritatem itineris, partim ob barbariem incolarum, & quod non uno vocitentur nomine. Verum longo tractu ab agro Sophiano ulterius cursu instituto promoti Hæmo junguntur, et in ejusdem etiam nomen transeunt, quod quum ad Hæmum pervenero pluribus enodabo.

Cæterum quod adhuc ad situm Nessi attinet, nec prætereundum mihi esse duxi, montes præfati quos diximus nobis pergentibus dextra lævaque existere, hoc eodem loci in rotunditatem quandam theatralem longamque quantum duo milliaria nostra circumagere possent insimul coeunt, et addunt eidem oppido non exiguum decorem.

Proinde apud Nessum die etiam vii ob equorum lassitudinem exacta, octava inde discessimus: emensique eo spatio, quod vix iv millia passuum faciebat, appulimus ad saltum Cunovizzam ætate nostra appellatum, qui ut est arduus et longus, ita et difficilis est præsertim curribus ob lapidum frequentiam, viæque angustias, crebrisque et nimium repente incurvatis gyris intersectas.

Hic

Hic saltus simili modo atque Lucavizza e Scardo instar promontorii protensum est ex Orbello in ortum, videturque etiam ipse appetisse conjunctionem montium eorum, qui nobis erant sinistrorsum, cupiens latius evagari. Nesso tamen, et ipse ut Morava Lucavizza juxta Pyroth oppidum, et Arcem ejusdem nominis destitutam labente longius ab itinere nostro a sinistris repressus hic finem fixit Cunovizza. Nesus vero ulterius lapsus indit nomen oppido, postea ut jam ante diximus intrat in Moravam.

At nos ea die initia tantum saltus Cunovizzæ peragrati venimus ad Pagum Zuha Clyffura, merito et Bulgaris, et Rascianis Zuha Clyffura, hoc est sicca rupes nuncupata, qui locus et vilis, et egenus est. Cæterum hic primum quo ornatu decorant sese Bulgaricæ mulieres vidimus, isque nobis mire ut simplex ita levis et sane deridiculus visus est: nisi si hac ipsa simplicitate oppressam gentem a Turcis, et imprimis agrestem, vixque se homines esse agnoscentes excusabimus. Nec de veste eorum loquendum est, quæ est omnino villosa, aspera, et vilis, qualem fortasse gauſapinam veteres habuere, tantumque manicæ et pectoralia indusiorum crassiore serico, eoque versicolore variegata. Capitis, et colli, et aurium monilia perpendenda diligentius. Crines a fronte discriminali facto in tenues, et crebras tricas colligunt, ductoque earundem tricarum sic ordine collectarum margine per tempora, et supra aures, additaque etiam illis ex staminum laneorum in crinium colorem tinctorum quædam quasi supplementa eisdem adhibent, ut appareant copiosiores: rejiciunt in tergus, et in unum quoddam velut rete astringunt, et demittunt infra cingulum. Hoc virgines. Maritatæ coactis crinibus altius, vittæ postrema varie sericata demittunt loco crinium ab occipite. Reliqua quæ dicentur utriusque communia.

Pileos habent ut lances ex tenuissimis virgulis factos ita ut ea pars, quæ apud nos caput obtegit et superne est clausa, apud hos aperta est summoque capiti imponitur parte latiore in cœlum versa, perinde ac si vestis fimbrias humeros supra attolleret, humeralia ima tenerent nudis omnino crinibus subtus apparentibus, adeo ut quiddam simile est
Ægyptio

Ægyptio diademati, quod in disci morem planum est. Cæterum hic ipse pileus lineo, & candido panno omni ex parte circumvolvitur, ornaturque ubique exterius partim affutis partim appositis quibusdam veluti nummis plumbeis, æreis, vitreis, & id genus multis aliis ex pellucetibus rebus, nihili alioqui, sed ad omnem motum crepitantibus. Ad hoc et capiti nihil non ex omni genere tum florum tum herbarum, quæ habent quippiam gratiæ peculiaris. Uvas præterea, et glandes, & bacchas, et similia indunt in circuitum. Aures vero quaterno, & quino loco vulnerant punctim, appenduntque eis plumbeas inaures, pondereque longe graviores quam valentes pretio. Habent simili ex materia manicas, et dextrocheria; sed seniores femminæ, et promiscue tam virgines quam vetulæ anulos æneos plures; ima omnino internodia illis onerata. Cæterum gerunt et torques, sed non aureos, vel argenteos, in quibus præcipuum locum habent conchæ quædam marinæ diversi generis, post orariæ baccæ nostri moris e vitro factæ. His succedunt nolæ, quas nos alligamus accipitribus; has sequuntur nummi calculatorii ærei Rhenenses, & frustra thoracis hamati ex chalybe, & demum quicquid uspiam lucidi occurrerit torquibus apponunt, & collo pluribus spiris aggerunt. Nec uno ejusmodi torque contentæ quæ sunt in pago magis insignes duos, tres, et quatuor geminant, adeo ut quamplurimæ nobis obstarent de nobis mirabundæ, et nos de illis, deque his eorum ornatibus: una quæsit an nostræ mulieres tam pulchre ornarentur? Beatae quæ nostros luxus ignorant, et suos in rebus quæ sunt nullo impendio ponunt, nec minus sua paupertate contentæ sunt quam nostræ suis divitiis.

Nona die Augusti, præterito, et viso tantum sub sinistris montibus præter quos Nessus labebatur oppido Pyrotto, Arceque ejusdem nominis vetusta, et destituta, quæ cujus fuerit antiquitus incolæ dicere nesciverunt, ad pagum Czarevo Brod nuncupatum venimus, de quo dicendum nihil est.

Decima post relicto pago Czarevo Brod simili difficultate viæ usi sumus qua in saltu, nisi quod ascensum non habuimus. Paucis enim inde

evecti passibus in angustias duorum montium, quae quasi claustra salutis jam desinenti subjecta sunt, devenimus. In quibus praeter horrorem inferne lapidum, et aquarum a lateribus montium, et ubique nemorosam solitudinis ingratam speciem nihil cernentes, hisque ipsis angustis vi horarum dato itinere tandem in patentes campos pervenimus, qui montibus collibusque in lata spatia hinc, inde per latera excurrentibus, et multis quidem cincti, quamquam majori ex parte faxeis, calvis, et nudis sylvis agros nec gratos admodum praebent, nec frequentes incolarum pagos. Esto quod illic mortales solo pecore, et satis vitam traducunt: ii tamen miserrime premuntur, et expilantur a viatoribus Turcis, unde longius etiam a via publica fedes habent. Quo factum est ut illa die egregie jejunaverimus, donec ad pagum Bellizam perducti sumus. Hinc vero die vi Zophiam, ubi non usi hunc ipsum diem, et insequentem noctem traduximus.

Est autem Zophia campestris ~~civitas~~ sine muris late et in longum patens, ac frequens aequae habitationibus ac domorum copia, et Bulgarorum ingens emporium multo mercatorum concursu celebrata, sita in plano, sed paullo edito loco, sub monte Vitossa incolis nominato, ac in Orbelli montis sine habito, qua idem Orbellus ad v. mille passus ulterius progrediens Haemo, ac Ciabro flumini propinquat.

Domus in ipsa nulla est insignis, nulla ferme lapidea; omnes humiles et humo tenus tectae et lignae; et si quae sunt nobiliore structura exformato quidem lapide factae sunt sed incocto, et cuppis tantum coctilibus opertae. Templis dumtaxat ornata est. Turcicis, et eminentibus eorum columnis cochleis, quae in campanilium nostrorum morem evectae eminentius, praebent speciem urbibus non indecoram; ex quibus sacerdotes eorum horas diei, et ornandi tempora clamoribus denunciant validissimis tam die, quam nocte. Nec aliis in aedificiis molestiorem curam ponunt quam Templorum, Balneorum, Pontium, et publicorum Hospitiorum, quae *Kervenzarai* vocant, quasi Caravanarum Palatia; contenti in reliquum ab coeli tantum injuriis tutos esse. Temples, & Balnea, et Pontes diligenter, & aeternitati, ex quadrato lapide quadrata construunt,

construunt, eaque rotundis plumbatis *Cubis* cooperiunt forma a Graecis et a Romanis accepta. Nec frontem Templorum, hoc est sanctuaria, orienti, sed meridiei opponunt, cochleas Africo, quae est plaga inter meridiem, & occasum; easque ibidem XII numeravimus.

Urbem autem hanc vetustam esse et Ulpianum olim fuisse vocatam vel ex Ptolemaei positione judico, quam in Dardania ponit, cujus Dardaniae nulla jam existit memoria. At Zophiae apparent antiquitatis vestigia ex ruderum copia, quum etiam numismata Romana eruat, et mœniorum non paucas ostendat particulas. Est praeterea in ea Aedes sacra Graecae structurae, et praestanti magnitudine, quae nunc in usu nullo est, paucaque loqui de illa cogor, quia videre non vacavit. Caeterum hoc tantum incolae retulerunt. Graecum fuisse Imperatorem qui quum tutelare Numen una cum uxore divam Sophiam habuisset, maritus Constantinopoli, uxor Ulpiani Tempia illi condidere, ab eoque tempore Ulpiani supresso nomine Zophiae successit. Fluvium autem habet bipartito divisum propter moleadina, quæ intra urbem posita sunt; & ab ipsa urbe nomen obtinuit, qui magnus non est, nisi quum imbrius intumescit. Nos alterum ejus cursum in urbis limine sicca rota pene, alterum parvo ponte pertransimus, oriturque in jugis Vitossæ montis, & in Ciabrum cadit paullo infra Civitatem.

Verum hinc XII profecti Augusti ad milliare unum Pannonicum in Ciabrum amnem antiquis, nobis Izcarem dictum incidimus, ibidemque initium Hæmi montis attigimus. Porro ortus Ciabrus in Orbello ad radices meridiem spectantes in orientem primum labitur, mox in septentrionem versus Orbellum ipsum ab Hæmo dividit, & in Zophianos campos erumpens sub ipsa Civitate currit præbetque non alia illi comoda quam piscium, idque citra magnam copiam. Post paullo infra Alutæ ostium e Transalpina ab Transylvania venientis Danubium ingreditur.

Izarem autem Ciabrum esse non difficili conjectura assequutus sum. Primum quod juxta positionem in Ptolemæo hujus fluminis, aliud flumen

nullum est, deinde quod moderni quoque incolæ hunc ipsum amnem, & urbem Zophiam terminum ponunt inter Mysiam superiorem, et inferiorem cum Thracia, quemadmodum et Ptolemæus lib. III de situ harum Provinciarum scribens, & Izcarem vocant, ut jam diximus. Cæterum flumen Chrysio nostro Transylvano, quem a Sebegeo Sebesianum appellant Chrysium, pari est magnitudine, sed nisi interventu imbrium ac resolutione vivium. Alioquin ubique facile trajicitur citra et pontem & navim. Repente tamen quum incrementum acceperit furit, adeoque rapidum ferunt, ut ne lapideum quoque pontis jugum admittat, eaque causa ligneo Zophiani conjungunt. Verum quotannis, eo excusso identidem illis reficitur.

Ab Izcare ad Tarnavo pagum promovimus, qui est ad radices montis Hæmi, ut conscendi incipit, habetque rivum exiguum, et ignobilem nec in tanti ut in literis ponatur; quamquam quidem in Nova Tabula apud Ptolemæum apposuerint, pinxerintque currentem in Danubium quum in Izcarem influat, addito illi etiam lacu in medio, quum nos ne ipsum quidem conspexerimus, tanta siccitate exaruerat. Monte præterea imminente conscenso, et incolis perquisitis diligenter de hoc ipso lacu, nec visu eo latissime protenso assequuti sumus, nec incolarum relatu, quem dixere lacum inibi esse nullum.

Ex Tarnavo ad Hæmi primos colles accessimus, qui adeo asperi fuere et incommodi, quamquam non ardui et eminentes, ut in superandis non sine periculo rotarum per duo milliaria sudaverimus donec ad Vaccharel pagum cum occidente sole evasimus, ubi ampla est planities alpibus interjecta, et pluribus circum per radices earum pagis coronata. Nec aliter eadem planities fuga est quam area quæpiam in Civitate, adeo grata videtur aspectu. Cæterum pagani hujus loci referebant nullos prorsus priscis temporibus ibidem colonos habitasse propter latronum frequentiam, eaque etiam causa viatores quoque in agmen coire oportebat quum illac erant transitori. Postea, quo tempore Belgradum nobis ademptum est, Passæ cujusdam industria Solymanus Princeps incolas collocavit, neque id solum hoc loco, sed per totam eam viam qua

Hæmi

Hæmi juga transcenduntur. Et insuper passim locis magis infamibus vicinos Pagos jussit custodiendi gratia excubias apponere, quas singuli pagani ordine inter se partiuntur stipe e communi exhibita. Hæ autem excubiæ sic aguntur. Viæ publicæ locum in montibus deligunt eminentius imminemtem sic, ut et viam ipsam habeat sub oculis, et latissime quaquaversus commode possit prospicere; in eoque casula straminea constructa unus dumtaxat homo excubat. Nec aliud ejus officium est, quam ut ubicumque vel in via vel in sylva viderit homines, tympanum pullat, innuitque eo signo hominibus memoratis animadversos esse ab excubiis. Jam si forte fortuna quopiam loco latrocinium fuisset commissum, ejusdem loci mox incolæ sub quæstionem coguntur, et nisi aut fassi fuerint latrocinium suos homines commisisse, aut ostenderint quinam commiserint, æque pœnis mulctantur ac si ipsi revera commisissent. Quo factum est ut alpes illæ secure hoc tempore superentur, etiam paucis comitibus: dum quilibet pagus, ubi antea ipse latrones emittebat, nunc metu pœnæ territorium suum custodiat. Sed jam ad reliqua.

Tertia decima die post a Vaccharel Pago moti primum memoratam planitiem percurrimus; inde pedetentim in colles, mox in montes alios aliis altiores incidimus, per quos in summa enitentes conatu maximo tandem ad ardua, confragosa, & sylvestria prorsus evecti, ægre in cacumen, et summa juga die illa tota itinere continuato pervenimus: ubi duo Pagi sunt uno milliari nostro inter se distantes, quorum priori Zuha Clyffura, Vetren posteriori nomen est. Et in utroque extant quædam vetustatis monumenta. In Zuha Clyffura primum in ipso Pago porta eminet operis lateritii simplex, & supra quadratos lapides sita, magnitudineque ampliori multo quam pro usu nostri sæculi. Extra Pagum ad duos sagittæ jactus Arx fuit, quæ in acuto colle condita, qui ab in valle duorum montium altissime a lateribus viæ impendentium medius affurgit. Manifeste apparet tutelæ cujusdam causa castellum ibidem factum fuisse, quum & angustia illæ natura fortes sint, & alia in parte nulla commodius via deduci potuit vel veterum judicio, qui si alibi quopiam loco mitiora juga reperissent, non est dubium quin studuissent commodis viatorum.

Sed:

Sed in Vetren quoque Pago simili in jugo iisdem montibus interjecto quadratae arcis extant ruinae super etiam terram erectae, cujus longitudo XL passibus, totidem latitudo protendebatur; muri crassitudo trium fuit. Nec alia aedificiorum vestigia vidimus nisi per pagorum loca, quae late circum ruderibus erant constrata. Et credibile est Hæmi hic fuisse claustra, quae ad repellendos hostium transgressus fuere communita, quemadmodum de Thermopylis, de portis Caspiis, Albanis, Zagri, & similibus legitur apud Geographos. Verum incolae nostri ævi, ignari bellorum veterum, quae inter Græcos, & Thraces, Macedonas, & Romanos successivis temporibus per eas Europæ partes viguerunt, ad sua tempora cunctas accomodant, & trahunt ejusmodi vetustates. Unde et Clyssuræ Pagum Clyssuram alii *Novak debeglie* vocant, alii Marci Kraglievith Regulorum Græciæ, eisque, quoniam per tot successiones in his regionibus dominiorum ipsi quoque illas tenuerunt præfidiis, cæca vetustatis barbaries originem etiam locorum adscribit. Sed fallitur, quia veterum est utrumque opus. Obscurum tamen judicatu Græcorum, an Thracum, an Macedonum, an Romanorum existat, quod argumentum nullum aderat, ex quo id perspicere potuisset. Nisi si Philippo patri Alexandri Magni ascribatur, qui Philippos, seu mavis Philippopolim, aut Trimontium (trino enim nomine utitur) urbem proxime condidit, idque partim contra hostes, partim propter utilitatem vestigalium, qui a mercatoribus accipiebantur, qui secure ea via utebantur ex Thracia in Mysiam, et hinc in Thraciam freti ejusmodi præfidiis commeabant. Nec nos puto fallit ista conjectura: Strabo etenim in VII de hoc ipso facit mentionem, quum de Strymone amne loquitur, ad quem Philippus eandem urbem condiderat. Ejus verba hæc sunt. "Quoniam Philippus eximio captus studio ut hæc sibi loco vendicaret maxima ex metallis, et reliqua locorum ubertate vestigalia constituit." Ego hic Pantaliam municipium fuisse arbitror; quantumque ex Ptolemæi positione possum colligere, affirmare etiam audeo. Aliorum tamen sit judicium, qui propius rei cognitionem accesserunt: nosque pergamus ad alia.

Dum hæc lustramus in hoc jugo loca, cernebamus a dextra nobis Hæmi altissimos vertices ingentibus circa ubique aliis montibus adjacentibus,

tibus, et tantam altitudinem perinde atque humeris sustinentibus, et attollentibus, quæ maximis nebulis tenebantur. Cogitavi illic esse fummos apices memorati Haemi, quia ex eo jugo quem jam superaveramus nullos videbamus eminentiores. Rogavi paganos quonam nomine tam illi vocarentur montes adeo in cælum ardua, horridaque altitudine contendentes quam ille, in quo tunc eramus. Respondere hunc Knissavam, ex illis alios Thecchiam alios Vasilizzam vocari, utrinque ambigue; adeo hic agrestes mortales degunt, qui, quantum et ex iis et ex aliis cognoscere potuimus a quibus locorum nomina exigebamus, ne terrarum quidem quas inhabitant notitiam habent. His igitur contentus hætenus nominibus, quia mora non dabatur perquirendis verioribus destiti ab hac molestia, & paganos ablegavi. Inde conversus per me ad considerandum montis totius statum juxta ea quæ jam pridem et in tabulis videram Ptolemaei, et in aliis legeram Geographis, perspexi multa vera esse quæ de illo scripserunt veteres. Non prætermittam tamen quin, et ipse aliquid de eo mittam in literas, idque non propter ipsum montem potissimum, sed etiam propter alia quæ ad descriptionem attinet nostri itineris.

Igitur ubi hoc jugum Knissavae superatur, ad Vātren Pagum appellitur, qui locus ultimus est hujus transitus, ex eoque brevi lenique clivo in Philippicos campos descenditur, et ad Strymonem amnem acceditur. Mons ipse hoc loco ab ipso summo vertice, de quo supra memoravimus, pandit se velut in duo brachia, sinistroque orienti expositio, in Pontum dirigit, dextro vero primum meridiem, mox occidentem petit ad usque maris Ægaei litora. Ipsa summitas verticis nobis a tergo linquitur, quam quidam Geographi in tantam altitudinem elatam esse memoriae prodiderunt, ut ex eo Pontus, & Adria, et Ister, & quicquid locorum interjacet conspiciatur. Quod quum Polybius quoque Historicus idipsum confirmaret, Strabo in VII minime eum vera dicere coarguit, dicens id esse impossibile propter multas aëris densitates, quæ obscurant aciem nostri visus, et propter spatium nimis longum. Multis tamen persuasum est id ita esse. Unde et Philippus Demetrii, & Persei pater hac opinione ductus Haemum conscendit, studio circumspiciendi
regiones

regiones & loca, per quae facillime rationes belli gerendi contra Romanos inire posset: quod ludibrio non caruit, quamvis eximius Princeps vitare voluerit adjecto vulgatae opinioni suo testimonio. Lege Livium Libro x. Dec. iv.

Nos xiv Augusti digressi ab Haemo campos Philippicos ingredimur, et currente nobis dextra Strymone fluvio vix duobus milliariis confectis occurrit pons, tenui ut tunc erat tempus caniculae anni impositus, quo perspecto cura diligenti, dignum descriptione judicavi.

Ex quadrato lapide constructus longus est cxviii passus, latus minus ix. Quinque habet fornices, medias iii magnas, et altas, extremas utroque in cornu mediocres, et humiles; sed majorum duae collapsae trabibus erant reparatae, & quacunque fuit integer communi lapide stratus est, habetque a lateribus ex quadratis lapidibus ad umbilicum hominis erecta latera, quae a casu tutantur transeuntes, dum conferti concursu inter se stiparentur, et praeterea ut esset locus initiendi iis qui amnem caetraque subjecta circum oculis prospectarent. In eo nulla visitur inscriptio; ceterum opus Turcium est. Fluvius cui est impositus Topolniza vocatur, fluitque ex his Haemi montibus, quos a sinistra in Pontum directos esse dixeram, moxque a ponte vix duobus millibus passuum lapsus condit se in Strymonem.

Post occurrit oppidum Tartar-pazarciz barbaris dictum, quod Emporiolum significat, locus satis sordidus, et in celebriore sui parte stabulis armentorum, ac ferrariis officinis conturpatum; quo praeterito, ad Pagum Govedar ripae Strymonis junctum promovimus, atque ibi noctem consumpsimus.

Die Augusti xv e Pago Govedar Philippo, qui et Philippopolis a Philippo conditore dicitur, praeterivimus, et ad Pagum Cognuus nominatum promovimus, quia ibi eo die et nocte hospitari malo conductorum ingenio non fuimus permisi. Mediam tantum pertransivimus.

Verum,

Verum, quantum parvo spatio temporis eandem urbem perspicere potuimus, quod prætextu annonæ vespertinæ comparandæ extorsimus, & pauxillum in altera ejus parte qua exieramus moram traximus, pulcherrimo in loco, in latissimis campis, & fertilissimis sita est. Turcis vocatur Philibe: Thracibus, Bulgaris, & reliquis linguæ Illyricæ hominibus, quibus est possessa potissimum dicitur Ploudin. Romani etiam Trimontium nominavere a tribus monticulis, qui eo loci pene rotundi, in acumen evecti, & junctim directo ordine positi in patenti planitie perinde ac scopuli quidam e mari eminent; adjacet his quartus etiam, sed non æque editus, isque in linguæ modum porrectus, ac sinuatus ea ex parte qua Strymonem respicit, et urbem recepit, in dextro latere Strymonis sedet una cum aliis. Urbs autem ipsa magnum occupat spatium, nec disjectas habet domos ut pleræque aliæ, quamquam hortis immixtas, et latiores quam altiores pro gentis moribus. Si quid insigniorum habeat ædificiorum, quod de omnibus civitatibus Turcicis dicendum est, id Tempia, Balnea, Sacerdotum habitacula, et publica Hospitia, quæ Kervenzaray nominantur, vindicant sibi. Cætera omnia humilia, lutea, & ligno commodata, non tamen conspicua. Eo vero etiam obcuriora, nec inhabitanda hominibus, quod in parte qua maxime oculos habere deberent cœca sunt, simul cum vicis, qui nullis fenestris illustrantur, stipati utrinque asseritiis parietibus ipsarum domorum tecta exæquantibus. Quo fit ut quum per vicos ambulas solitudinem diceres, nisi quis tibi occurreret, adeo ex fenestris nemo expicit.

Accolunt Philippopolim præter Turcas Bulgari, & Rasciani, sed ut servitia habentur. Non tamen a religione Christiana prohibentur. Unde quum in hortis ad Civitatem, eadem jam pertransita, pauxillum ut supra dictum est prætextu comitibus injecto constitissemus annonæ gratia comparandæ, quod pagus quem petebamus dicebatur laborare penuria, in Rascianum hominem incidimus, quo interrogato quomodo vocaretur ei genti proximus mons, quem jam antea dixi ab Hæmi vertice prodiisse, & dextra nobis Ægæum mare petere, respondit Rupzcam vocari. Inde numquid iisdem in locis sciret extare veterum aliquas ædificiorum ruinas, extensa manu ostendit frustra fornicum Aqueductuum in longum spatium,

qui ab hoc ipso monte Rupzæ sub monticulis illis tribus in eum usque collem quo sedet Civitas erant investi. Miratus hoc subjeci: & quid opus fuit aqua peregrina, quum urbem Strymon ac suburbia illius interfuerat? Respondit, audisse se a maioribus nunquam fuisse idoneum Strymonem ad potandum; nec modo esse posse si tunc non fuerit. Retulit post, quum de religione quæreretur, nihil eis de hac decessisse, nisi quod qui eam sustentare, & propagare deberent, paulatim in Turcicam degenerent deficientibus senibus, & pubertate liberioris status illecebris pellecta; & simul ostensis digito tribus monticulis, & quartum sedem civitatis quo loco Philippus arcem collocaverat, cujus apparent vestigia, eo, inquit, in utroque vertice (duos e tribus demonstrando) duo olim fuere amplissima monasteria; sic enim parentes suos a maioribus accepisse: illudque, quod in primo fuerat monticulo, quum primum Philippopolis in Turcarum potestatem devenerat sine ullius tempestatis, et terræmotus interventu hyatu terræ ipso in vertice patefacto haustum fuisse Monasterium. Et nunc eo loci cavum extare, ac videri murorum submerforum summitates, ipsumque Monasterium Divæ Mariæ Virgini fuisse dedicatum. Monachi intus existentes expertes fuisse periculi.

Aliud, quod in arcis loco erat, quum jussu Turcæ demoliretur quo ejus ruinis aliud quippiam ædificii conderet, LXX ex iis, qui sacrilegis manibus domum Dei frangebant, subitis mortibus per intervalla dierum dum instant operi fuere prostrati, miraculoque apud Christianos utrumque habitum, et mandatum memoriæ numquam interituræ sua gente incolumi. Si in urbe moram fecissemus non est dubium quin plura cognoscere potuissemus, quamquam quidquid uspiam inibi veterum Ædificiorum Turcæ repererunt, & in hodiernum diem usque reperiunt id totum in Templis, Balineis, & publica Hospitia convertunt.

Vicus quo Civitatem transgressi sumus utrinque mercatorias stationes, promiscueque omnium artificiorum officinas, et cauponantium tabernas cum macellis, et hortensium rerum cumulis erat refertus. Accesserat quod et pavementum ejus altius quam pro urbana mundicie, et conditione temporis adeo erat luto obrutum, ac foedatum, fuligineque ac fumo
omnia

omnia circum denigrata, ut obturatis naribus præterierimus partem ejus non ultimam.

Alluit autem Philippopolim Strymon fluvius, qui ortus in Hæmimontium jugis, quo loco idem recedit ab Orbello, quæ juga antea dixi summa haberi, labitur per campos Philippicos lato alveo, aquis limpidis & piscosis, primumque ipsam Urbem Philippos sive Philippopolim attingit dextro latere suburbiis ejus in sinistra relictis, ubi ligneo ponte, eoque longo transitu. Inde remotius ad sinistrum latus a via publica evagatus, tribus milliaribus nostris postea in eandem revertitur, in qua Muztassæ ponte lapideo, eoque præclari operis conjungitur. Inde circumvectus eam oram collibus exultantem abit dextrorsum versus montes Macedoniæ, hosque legens quamdiu in conspectum Hadrianopolis procurrerunt, & cursum in Austrum retorserunt ad Ægæum mare usque succedit urbi Hadrianopolis quamproxime, eoque loci recepto amne Tonicia (quem putarem Nessum esse, et Ptolemæo Tonzos dictum) ab Aquilone ex Hæmo monte descendente, ac secante ima Civitatis qua ad suburbia conjungitur, in meridiem labitur, donec ad Ægæi maris appulsus littora paullo supra Urbem Aretusam mari miscetur. De quo postea.

Verum ne quid omittatur, quod ad institutum opus pertineat Pontis memorati descriptionem faciam.

Pons longus est passus cccxxv, latus viii, altus sesquihasta velitari in medio ubi est altissimus; quod ad utrumque caput in declive pendet propter ascensum ejus faciliorem, et pluviarum ex eo decursum. Fornices habet xxi, a mediis alios aliis omnes minores. Cætera ut alius, qui est in amne Topoliza ultra Philippopolim, nisi quod ripæ alvei Pontis cornua sustinentes, et dextra, et sinistra quadrati lapidis muro quatuor cubitorum altitudine quadamtenus emunitæ sunt, ne vi aquarum arrosæ solvendi Pontis causa præbeatur.

Prospectum est, et pilarum firmitudini & æternitati. Sub fornicibus quanta est Pontis longitudo fundus fluminis supra, & infra ipsum Pontem confixus est creberrimis vallis, & glarea exaggeratum in tumorem

non impense altum, sed eo tenus quo quum subita fluminis incrementa ingruerint fundamenta pilarum ejus denudare, ac subruere non valeant. Ab utroque autem latere vicum habet, et viæ Trajanæ jungitur, quæ summo studio tenetur, & identidem reformatur.

Vocatur autem Muztaphæ Pons ab auctore Muztapha. Hic enim Bajazitti Principis temporibus gravi jam senectute effæctus, et opulentus, quum expiandorum peccatorum gratia pro more gentis suæ vellet publico commodo opus aliquod condere, Ponte decrevit Strymonem jungere, idque eo loco viæ publicæ quo, & difficilem & periculosum transitum viatoribus exhibebat. Aggressus itaque opus magnæ & molis, & impensæ magna mente illud perfecit, facileque cum Veteribus certare potest.

Caeterum Philippenſes, ad quos Divus Paulus Apostolus scribit, hujus Civitatis erant incolae, in cujus campis pugnavit primum Julius Caesar cum Pompejo, deinde Augustus, & Brutus cum Cassio, tantaque tumulorum per totos latissime campos erectorum cernitur copia, in quamcumque partem oculos verteris, ut numero eos comprehendere non facile possis. Nec dubium est vel praesentium indigenarum testimonio Ducum ac Virorum illustrium fuisse sepulturas. Qui mos unde originem hunc in modum sepeliendi homines summos acceperit nunc non succurrit mihi. Revera tamen sepulturas esse licet & ex Virgilio cognoscere. Ait enim in III de funere Polydori :

Ergo instauramus Polydoro funus, & ingens

Aggeritur tumulo tellus.

Et in VII de Cajeta nutrice Æneae :

At pius exequiis Æneas rite salutis,

Aggere composito tumuli, postquam alta quierunt

Aequora, &c.

Est & in VI simile, quod huc facit, de Palinuro :

Quod te per cæli jucundum lumen, & auras,

Per genitorem oro, per spem surgentis Iuli,

Eripe me his invictæ malis, aut tu mihi terram.

Injice, &c.

Ubi

Ubi sepeliendis corporibus, dum ejusmodi tumuli excitari inciperent, primus terram cadaveri injiciebat qui esset proximior consanguineus, vel uxor viro, vel vir uxori: aut si nullus horum adesset, et res ageretur in exercitu, Dux hoc officio pietatis, aut qui dignissimus extitisset, vel amicissimus fungebatur. Unde et hic Palinurus ab Æneâ, et apud Ovidium Penelope exigit a marito ut Telemachus filius communis utriusque extrema justa persolvat, quum dicat:

Ille meos oculos claudat, & ille tuos.

Verum, priusquam exeam e campis Philippicis, dicendum mihi est nonnihil de hac ora terræ debeatne Thraciæ, ac Macedoniæ adscribi. Ptolemæus enim libro III. Tab. Europæ x Strymonem amnem oriri in Montibus qui Thraciam dividunt a Macedonia. Strabo quoque, Ptolemæo vetustior, idem videtur sentire in VII. Libro. Trans amnem, inquit, Strymonem ad Ponticum ostium, & Hæmum montem cuncta sunt Thracum, excepto litore quod Græci tenent. Nec dissentit Solinus, qui ait inter Macedoniam, & Thraciam Strymonem facere terminum, easque terras, ab Hæmo irrigare. Ad quam sententiam Lucas etiam Evangelista noster in Apostolorum Actis, cap. xvi accedit. Navigantes autem, inquit, a Troade recto cursu venimus Samothracem, & sequenti die Neapolim. Inde Philippos, quæ est prima partis Macedoniæ Civitas Colonia. At perstante firmiter Ptolemæo, in sententiam it idem Strabo, quum eodem ipso libro VII dicat plerosque totam a Strymone plagam ad Nestum usque amnem Macedoniæ ascribere, quo fortasse Tonciam amnem Nestum vult esse. Solinus, qui etiam Polyhistor, Rhodopem appellat Mygdonium quia est provincia Macedoniæ Thraciæ contermina; & Aristoteles etiam hoc adstipulatur quando dicit, extare in campis Philippicis Macedoniæ aurifodinas quamplures. Mela vero Pomponius scripsit Thraciam montes attollere Hæmum, Rhodopem, & Orbellum, quum tamen totus Orbellus Mysiam insideat. Quo igitur pacto in utramque partem id probari possit equidem non video, præsertim in hoc cursu itineris, & in tanta non solum novorum, sed etiam veterum auctorum diversitate sententiarum. Unde haud dubie palam est veteres quoque multa scripsisse, ex relatu et lectione priorum,

non

non experientia propria. Ideo nec ipse sudabo in hoc curriculo, quum & incolæ etiamnum varie de hoc sentiant, alique Macedoniae alii Thraciae oram hanc attribuunt; & facile futurum arbitror ut harum Provinciarum veterum termini confundantur, & excidant si hoc Imperium majora sumet incrementa. Sed jam ad Strymonem, post quem suo loco etiam de aliis hujus Thraciae partis amnibus Tonza, Nessò, Hebro, Melani, Arzo, Athyra, & Bathynia attingemus quædam non indigna consideratione, multisque, & veteribus et novis præterita; qui amnes hoc ordine ut nos posuimus Strymonem sequuti usque ad Promontorium Chrysoceros appellatum, in quo situm est Byzantium, cursum in mare tenent, præter Tonzam, qui miscetur Strymoni. Quare ortus Strymon in Hæmi montis radicibus eo fere ipso loco, in quo recedit ab Orbello, ab Izcaris quoque fonte, quem Ciabrum veteres vocavere, ut jam a nobis antea dictum est, haud multum disjungitur, eo modo quo a Rheno Danubius. Simulac autem caput exerit tenuem admodum referunt esse incolæ, sed quod mox diversis rivis ex Alpium hinc inde jugis prolabantibus auctus sit aliquanto alienis aquis amplior, quod & Pomponius Mela testatur. Vectus inde per multos convallium anfractus aliquot locis per montium sinuationibus dilatatur, hoc ipsum Plinio quoque affirmante, qui dicit eum prius in vii fundi lacus quam cursum dirigat. De quibus tamen lacubus nihil nobis affirmavere incolæ. Nec his angustiis longiore spatio detinetur quam bidui, fummis eidem Hæmi jugis incumbentibus, quæ Philippo olim Regi Macedonum conscensa, curiose etiam peragrata sunt. Evolutus dehinc e montium claustris jugum, quod barbari Illyricæ nationis *Vetren*, nos ventosum dicimus, uti supra est memoratum, in læva dimittit. In dextra vero eos montes quos Vasilizam, & Zlavievi incolæ nominant, & ab Hæmo scissi amne Strymone, nec disjuncti ab Orbello, ut in Tabulis videre est Ptolemæi, Philippopolim usque ubique eundem Strymonem comitati, postmodum per Mygdoniam ultimam è regione Thraciae provinciam Macedonicam in Ægaeum mare descendunt, qua Lemnos insula, & mons Athos, nobis Sanctus appellatus, eminent. Lapsus autem ab ipso usque fonte in orientem primis semper, & flexuosis progressibus, ubi primum prodit in plana ortum in tergo deferit, cursumque

cursumque lato jam alveo, & multis aquis conspicuus in vulturnum per Philipenses campos dirigit. Per quos late, initio dextra ora viae publicae, sive Trajanae praefatorum montium ima faecundando expatiatus, ad Philippopolim in eandem viam redit. Ibi deinde inter urbem, et suburbium accepto ponte ligneo versus Haemum ad sinistra recedit, qua per majora ejus planitiei spatia egressus, et longe lateque divagatus de-
nuo, in memoratam viam majore jam sui et nomine, & existimatione revertitur ad Muztaphae vicum, ubi & Pontem hujus nominis a conditore nuncupatum subit. Post iterum repetito dextro latere, & v circiter milliaria nostra emetitus accedit tantum proxime ad Civitatem Hadrianopolim, qua perinde atque ex debito quodam a limine salutata, totus in Austrum torquetur versus Ægaeum. In quo tractu duobus pontibus acceptis, priore ligneo, posteriore lapideo, et in via Callipolitana posito, mare demum supra dictum illabitur. Hoc proinde cursu, quem ab Haemo ad mare obtinet, nescio an plura, verum majora recipit flumina, quam quae recepit inter montes. Duo primum dextro latere, & utrumque ex montibus Basilicis decurrentem Ztaram Richam, hoc est antiquum flumen, ad Philippopolim, et Ardum paullo infra Hadrianopolim: laevo deinde quinque. Topolnizam citra oppidum Tartar-pazarzik, ultra Jadinam, paullo post Cruzkam, inde Gergovam, mox Tonzam eodem fere loco sub Hadrianopoli quo Ardum. Ubi ponte etiam ligneo jungitur, Tabaclar ab opificio coriariorum Turcis nuncupato, quod ibidem exercetur propter aquarum facultatem. Nec plura discere potuimus, praesertim quae a dextra ora in eum incidunt. Verum quoniam campi Philipenses ad producendam oryzam maxime sunt idonei, eoque genere leguminis multum exuberant, Jadinæ aquis potissimum irrigantur, quae longa jam indigenarum industria in complures easque amplas paludes infusae, ac in meatus derivatae plurium annuum speciem praebent. Quo fit ut mediis etiam caniculae fervoribus luto ea via foeditur. Nomina autem Strymon tria habet: hoc primum, quod & Graecis, et Latinis commune est; secundum Mariza, quod Illyricum est; tertium Mericz, quod Turcicum. Caeterum quum hodiernum ejus nomen recentiores quidam auctores Hebro adscripserunt Marizam appellantes, minime edocti recte sunt quandoquidem et Graeci, et Turcae,
et

et quaequae aliae nationes inibi incolentes Hebrum, hoc temporis Ergi-
nem vocent. Tum illi a Ptolemaeo quoque vera sua in Tabulis positio
non est attributa. Alluit enim Philippopolim dextro latere, sinistro
vero Hadrianopolim. Ptolemaeus autem illum, et ab hac urbe, et ab
illa remote collocavit, quum interim & Hadrianopolim cum Philippo-
poli eandem esse Civitatem scribat, contra classicos auctores, et publi-
cam experientiam. Quod qui videre propriis oculis, et Tabulas ejus-
dem Ptolemaei diligentius considerare facile perspicere potuerunt:
quod patefacimus. At jam ulterius.

Porro moti ex Pago Cogniis sive Consthyza, quod a statione equorum
nomen est sortitus, Clodovizian xv Augusti, hinc vero ad Hormanles
xvii, quae duo loca simili modo Pagi sunt; & xviii ad Pontem ac-
vicum Muztaphae pervenimus. Qui tractus quoniam aridis collibus,
locisque incultis, & memorosis late patet, nihil in eo offendimus, quod
fuiisset notatu dignum, praeter memoratum Pontem Muztaphae, de quo
jam abunde recensuimus.

Verum xix Augusti relicto Ponte Muztaphae venimus Hadrianopo-
lim terra superiori simili. In quo spatio, nec a Ponte multum longe,
vidimus dextrorsum in Strymonis ripa oppidum Ciermenium, quod ex
aedificiorum ruinis vetustam aliquam urbem fuisse apparebat. Nunc
Zagarensi Zangziaccho sedes est. Zagara autem oppidum est ad radices
montis Haemi situm, qua parte imminet ab ortu campis Philippicis,
torusque is tractus una cum ea parte montis praefati Zagarensis Comi-
tatus hoc tempore appellatur, quum antiquo Praetura Bessica vocatus
fuerit, a Bessis populis, quos veteres auctores Haemi accolae, Nessoque
amni, & Pangaeo monti, in quo sita est Hadrianopolis, conterminos
fuisse prodiderunt. De quo lege Ptolemaeum, & Pangaei montis apud
Vocabularios positionem.

Oppidum vero Ciermenium sequitur amnis Gergova, ille quidem alveo
exiguus, minime tamen aquarum indigus. Et mox Civitas Hadrianopolis.

